

THE MEDICAL AND SURGICAL REPORTER.

No. 2087.

SATURDAY, MARCH 6, 1897.

VOL. LXXVI—No. 10

ORIGINAL ARTICLES.

FUNCTIONAL GASTRIC DISEASES—THEIR DIAGNOSIS AND TREATMENT.*

[PART I.]

A. L. BENEDICT, A.M., M.D.,† BUFFALO, N. Y.

FUNCTIONAL GASTRIC DISEASES.

At first thought, it is almost incomprehensible that distressing symptoms and bodily depression may occur without a lesion that the most delicate manipulation and the highest magnifying powers can discover. Whether we admit that a functional disease is possible or whether we consider that all disease is accompanied by some organic change, even though too slight to be recognized, is not of practical importance. It is necessary, however, to recognize clearly, the difference between those diseases that are marked by a discoverable lesion and those which are not. The truest conception of the latter, includes all functional diseases, in whatever organ or apparatus their symptoms are manifested, under the head of nervous disturb-

ances. For various practical considerations, the nervous specialist can scarcely include in his province neuroses with such marked local symptoms as those of the stomach. Successful treatment of such disorders, however, depends on the realization that we have to deal, not with a broken engine but with one which is working under too high or too low pressure and which requires, not repairs, but careful adjustment and management.

The functions of the stomach may be tabulated as follows:—

1. Secretion of hydrochloric acid.
2. Secretion of pepsin.
3. Secretion of rennet.
4. Peristalsis and churning movement.
5. Proper action of sphincters.
6. Absorption.
7. Sensation.

Theoretically, we might expect to establish fourteen types of gastric neuroses, with an almost infinite number of combinations, according as each of these functions were above or below par.

*Awarded the Merritt H. Cash Prize by the Medical Society of the State of New York, 1896.

†Professor of Physiology and Lecturer on Digestive Diseases, Dental Department, University of Buffalo; Consultant in Digestive Diseases, City Hospital for Women, Buffalo.

Practically, we shall find no such complexity. Let us begin with the last of the list and consider each function in detail.

DIMINISHED SENSIBILITY.

The sensibility of the normal stomach is so slight that perfect health has long ago been defined as a condition in which one was not conscious of having a stomach—and, we may add, there should be a similar subjective ignorance of all the viscera. The normal sensibility of the digesting stomach may be compared to that feeling of self-satisfaction which is usually associated with a clear conscience. The writer has had under his care and still has under observation, a man who, without the least disturbance of chemical digestion and assimilation, has not known for years the sensation of hunger nor of appetite. Here is a depression of the sensory function of the stomach, yet it can scarcely be considered as a disease, since the man's general health is excellent. Even granting that the case is to be considered in the light of a derangement of function, it is difficult to decide on a proper course of treatment.

INCREASED SENSIBILITY.

An excitation of the sensory function of the stomach may be a neuralgia—when it is to be treated on the same lines as a neuralgia of almost any other part of the body, with the exception that local measures may be applied by means of internal administration. It may also consist in a semi-hysterical hyperesthesia, by which the patient imagines that he or she can follow the digestive process and feel particles in contact with the stomach-wall. Heart-burn, nausea, etc., can not be considered as perturbations of the sensory function of the stomach, any more than the pain of a burn is a disturbance of tactile sensibility. Although pain is in a sense abnormal, it is inevitable and the nerves of the body are normally endowed with the power of notifying the conscious centers of damage inflicted. Heart-burn is due to an irritation by a too highly acid gastric juice, the acidity being more commonly due to organic acids of fermentation, occasionally to a supersecretion of hydrochloric acid. Nausea, too, is essentially conservative, being a noti-

fication that the contents of the stomach are injurious and that evacuation is more or less strongly called for. We must clearly recognize the difference between a true gastric nausea and one from reflex causes and must distinguish projectile vomiting as a motor and not a sensory disturbance. The pain and nausea dependent on actual organic changes in and about the stomach are also to be excluded from this discussion.

The hysterical hyperesthesia referred to above, is to be treated on general principles, like most hysterical cases. True gastralgia requires tonic, nutritive and alterative treatment, intended to "give food to a starving nerve." So far as local anodyne measures are concerned, what is said in this connection will apply to almost any painful condition of the stomach, except that, here, we need to consider less the antiseptic and digestive influences of our drugs and more their power merely to allay pain. One of the best local anodynes is heat, applied by means of a poultice or, still more directly, by means of hot drinks. Bismuth subcarbonate and sodium bicarbonate, which are quite effective as palliatives of heart-burn, are practically useless in the treatment of true gastralgia. Carbolic acid, aqua chloroformi, cocain, the volatile oils, especially oil of peppermint, atropin, aconite, etc., are here indicated for their local anesthetic effect. Opiates will be avoided by every conscientious physician.

GASTRIC ABSORPTION.

Whereas sensation is a function of the stomach that can not be diminished, absorption is one that can scarcely be conceived of as increased. Maltose and peptone are absorbed from the normal stomach almost immediately after their production, mere traces being present in the filtered stomach contents. Especially is this true, after the first two hours of gastric digestion. Granting a brief delay of absorption, its consequences will not be serious since, under ordinary circumstances, the body has a considerable reserve of nutriment. However, if the function of absorption actually fails, the consequences are most disastrous. Such failure is comparatively common, but it does not usually occur to the physician in charge to classify it as a

functional gastric lesion, since there is often disease of other organs. It certainly does fail in anemia, for ordinary diet contains enough iron for the needs of the system, while the entire amount in the body, about three grams, is usually administered in the course of two or three days' medication. In shock, also, it is well known that absorption is suspended until the stage of reaction.

It has been proposed to test the absorptive capability of the stomach by administering twenty centigrams of potassium iodid in capsule, detecting the iodine in the saliva with nitric acid and starch paste. The experiment is a very pretty one and easily performed but the writer is growing more and more sceptical with regard to its practical value. Under ordinary circumstances, whether tried before or after meals and in whatever form of functional stomach trouble it be used, the test will show the elimination of the iodine in the saliva in from ten to fifteen minutes. This means (1) that the capsule has been dissolved; (2) that the potassium iodid has been dissolved; (3) that the potassium iodid has been absorbed; (4) that the salt has traversed the portal, pulmonary and general circulation, the last two many times before a detectable quantity has reached the salivary glands; (5) that the salivary glands have excreted the salt; (6) that the saliva has gathered in sufficient quantity and has been expelled from the mouth. (1) and (2) occupy about two minutes, (4) represents about twenty-five seconds for each circuit, (6) occupies about half a minute. Even these factors are variable but (3) and (5) remain as unrelated, unknown quantities, to be solved from one equation. The value of the test must, therefore, depend upon purely empirical knowledge. Penzoldt, Ewald and Boas state that the test is reliable and that cases have been observed in which absorption has been delayed till half an hour or more after the administration of the capsule. The writer, after using the test in a considerable number of cases, with an average result of twelve minutes, encountered a series in which the time was suddenly increased to from forty to fifty-five minutes. An examination of the capsules showed that they were composed of some form of albumin

which would not liberate the salt until digestion had taken place. It would scarcely be fair to explain all cases of delayed elimination to the same cause; in fact, the writer had under observation a medical student whose elimination was repeatedly found to be slow, though capsules similar to those used by him showed normal results in other cases. Still, a foreign body can not be considered an ideal test of normal absorption of organic nutriment and this test, to be of even suggestive value, requires a very careful regulation of circumstances. It should always be used at the same period of digestion, let us say from an hour and a half to two hours after a meal, when digestion is at its height. In order to reduce to a minimum the delay of elimination, the secretion of saliva should be stimulated by having the patient chew some simple gum or roll a pebble about in the mouth. All traces of the salt must be brushed from the outside of the capsule, which must be swallowed with a sufficient and uniform quantity of water, say 50 c.c., at the temperature of the body. A control test should be made with a similar capsule so that the time of solution may be subtracted from the total. What the writer considers much better tests of the gastric absorption will be referred to under the head of the chemical examination of the stomach contents.

It is doubtful if more than temporary delay of absorption occurs independently of some form of indigestion. Certainly, one would not be apt to suspect it in an apparently healthy person, nor would the latter be inclined to allow an examination of the stomach-contents. Still, it is altogether probable that there are wide variations in the normal absorptive power and that, on this ground, is to be explained the fact that many persons are fat and well nourished on scanty diet, while others who eat larger quantities of food are lean and, perhaps, weak. It is impossible, however, to draw a practical distinction between absorption and assimilation. Granted that absorption is deficient, there is no treatment especially adapted for this condition. General hygiene, exercise, regulation of chemical digestion, the administration of strychnin, which is

also indicated for the relief of muscular and glandular atony, possibly more direct circulatory stimulants, suggest themselves as appropriate.

THE GASTRIC SPHINCTERS.

The action of the gastric sphincters is a somewhat intricate one. Unfortunately, the passage of food into the stomach meets with no opposition, so that, of all organs, this is the least protected against abuse. Physiologists disagree as to whether the pylorus should allow the chyme to empty into the intestine little by little, at intervals during the whole course of digestion, or whether the passage of chyme occurs normally in waves, beginning after digestion has been quite thoroughly accomplished. The writer, from personal observation holds the former theory, though it is not so enticing as the latter.

On auscultation over the stomach, while the patient drinks, the entrance of water is audible and, sometimes, there is a double murmur, the latter part of which, one would naturally interpret as the leakage back of air through the cardia. Ewald, however, describes the sounds in an entirely different way, regarding the second murmur as the constant one and the first as an added preliminary sound. These murmurs do not seem to have any very practical value, from a clinical stand-point. In fact, the question whether liquids, gases and semi-solid stomach-contents shall be regurgitated through the esophagus, seems to depend less upon spasm or relaxation of the cardia, than upon normal individual differences. Other things being equal, the person who can vomit easily, without retching, and who can raise gas from the stomach, suffers less than one who—like a horse—can scarcely vomit at all. Habitual rumination, which has been sometimes classified as a gastric disorder depending on relaxation of the cardia, seems to be due rather to the power of voluntarily aspirating the contents of the organ. Those who have this power, usually consider the practice a great pleasure and, while the habit is a disgusting one, there is no manifest reason for counting it as a disease.

GASTRIC MOTILITY.

The motor power of the stomach depends largely on nervous and systemic

conditions. During lavage, one stomach will exert a pressure equal to ten or twenty feet "head" of water while another, with apparently the same amount of retching, will merely effect an oscillation of the water in the funnel. We cannot, however, attach much clinical importance to this observation, any more than we can estimate a man's capacity for work by his ability to perform some athletic feat.

The salol test, not of the muscular power of the stomach but of its promptness in emptying its contents into the duodenum, has now become quite well known. This test depends on the fact that salol does not dissolve in an acid medium but is broken up into salicylic and carbolic radicles, in the presence of an alkali. The former is readily recognized in the urine by adding a few drops of ferric chlorid solution. It is assumed that the occurrence of the characteristic purple tint indicates that the salol has passed into the duodenum along with the stomach contents and that it has been decomposed by the alkaline intestinal juice, absorbed, and eliminated by the kidneys. The salol is given immediately after a meal and the test is usually obtained forty or sixty minutes afterward. Obviously, the test cannot represent the final emptying of the stomach but rather the preliminary leaking of chyme through the pylorus. The writer has modified this test to the extent of diminishing the dose of salol from a gram, which has once or twice produced death, to fifty centigrams. After a careful study of about twenty cases—to say nothing of many more in which the evidence was corroboratory but in which possible sources of error were not so rigidly excluded—the writer has come to the conclusion that this test is worthless. In this series of cases, the characteristic test was obtained at from half an hour to an hour and a half after the meal, without the slightest correspondence to the nature of the case. Like the potassium iodid test for absorption, there are many unknown quantities in the equation. Stein has shown that mucus aids in the solution of the salol and Cornet has proved that it is actually absorbed from the ligated stomach, though after a considerable delay in healthy animals. In cases of subacidity

and gastric catarrh, we have no guarantee that the salol has passed through the stomach unchanged nor, on the other hand, can we infer that a delay in the appearance of the test is always due to sluggishness of the stomach, for we have no assurance that the change of reaction in the intestine occurs as promptly as it should, nor that absorption and elimination are constant quantities. The writer has found that salol given some time after eating, with digestion at its height, requires the same time for elimination as if it had had to undergo the suppositional delay in the stomach. It will be readily appreciated that, given on the one hand, a case of subacidity with sluggish gastric muscle and some concomitant catarrh; and on the other, a case of superacidity with an irritable stomach, the salol test will quickly appear in the former while, in the latter, the delay of overcoming the excessively acid reaction of the chyme, may more than compensate for the rapidity with which the stomach contents are discharged.

Huber has proposed a modification of the test, on the assumption that in the healthy organism, all the salol should be eliminated in twenty-four hours and that its persistence later than this, indicates a delay in the stomach. At the outset, however, we are met with the contradiction of Cornet, to the effect that fifty centigrams of salol is not normally eliminated in so short a time. As the result of experiments, the writer has found that the ordinary salol test and Huber's modification, do not give confirmatory results, so that one or the other must be based on false premises. The existence of a fallacy is rendered highly probable by the consideration of these two cases. No. 1, a feeble, middle-aged woman, with chronic bronchitis and, probably, gastric catarrh, though too weak to allow careful physical examination. No. 2, a young woman, with temporary lack of hydrochloric acid, who recovered in the course of a week. In each case, salicylic acid was found in the urine half an hour after the administration of salol with the last mouthful of a meal, although an excess of muscular action is inconceivable in either case. In No. 1, elimination required thirty-six hours; in No. 2, forty-eight, a discrepancy easily accounted for if we remem-

ber that mucus aids the solution of salol, but which can not be explained by Huber's hypothesis, as there was no indication that the mild case of sub-acid dyspepsia was more atonic than the other, serious case. In other instances, the writer has found similar contradictory results and the only logical conclusion is that no dependence can be put upon the salol test unless, possibly, under special conditions when other uncertain factors can be eliminated. In particular, the acidity of the gastric juice must be insured, if necessary, by the administration of hydrochloric acid.

Klemperer has devised a test of gastric motility consisting in the introduction of a hundred c. c. of olive oil, which is allowed to remain two hours when the siphon is used and the diminution in volume is noted and compared with a standard. A man who can be so certain of the position of his tube and whose technic is so perfect that he can obtain even approximately quantitative results from such a method as this, is to be envied. In a series of experiments on a very tolerant patient with atonic dyspepsia, the writer found that the stomach disposed of about fifteen hundred c. c. of water in the course of lavage, lasting fifteen minutes. In many other cases, without making measurements, about the same loss has been noted. Auscultation and percussion, as well as the sensations of the patient, show that the loss is due to the passage through the pylorus and not to the absorption of the fluid. Olive oil is, in itself, a stimulant to peristalsis and it is absurd to believe that we can manipulate half a glassful of this drug and obtain anything like reliable measurements of the amount left in the stomach after two hours.

We must accept the lamentable fact that we have no single brilliant test for the motility of the stomach. The muscular impulse during lavage, the results of palpation, percussion, and auscultation at the pylorus, the inspection of the stomach contents at different times after a meal, the general muscular tone of the body, even the fullness or emptiness noticed by the patient, must be taken into account. We must bear in mind, also, the variation in the time of digestion depending on the nature and quantity of the food. The following table of ob-

servations made on healthy subjects to determine this point, will be of assistance.

Prager, 100 grams. of various warm and cold meats.....	2½ hours.
Penzoldt, 250 grams. of beef-steak	4½-5 hours.
Walther, 200 grams. of fish.....	3½ hours.
Prager, 100 grams. of egg.....	1½-3 hours.
Croce, 150 grams. of stewed peas, lentils, green beans, and other vegetables.....	4-4½ hours.
Prager, 200 c.c. of carbonated water.....	1-1½ hours.
Prager, 200 c.c. of tea, coffee, cocoa, milk, etc.....	1½-2½ hours.
Krieger, 500 c.c. of water, tea, coffee, cocoa, milk, beer, wine, etc.....	1-1½ hours.

Most authorities agree that seven hours is the extreme duration of gastric digestion in health. While it is not often necessary for the physician to determine the exact duration of gastric digestion the presence of food or of indigestible residue dating back beyond the last meal—with the obvious exception of meals too near together—is significant of dilatation, actual or relative.

The writer has never encountered, or has never diagnosed, a case of atonic dyspepsia in the limited muscular sense which is insisted on by some authorities. Atony of the gastric muscle is usually associated with a failure on the part of gastric secretion, especially of hydrochloric acid. Such an association is a natural result of a common nerve supply to both muscular and glandular elements. Those who object to the application of the term *atonic dyspepsia* to a combined muscular and glandular weakness, do not furnish evidence that the strictly *atonic dyspepsia* occurs frequently enough to deserve a special name. Undoubtedly, all stomachs do not empty themselves with the same rapidity, but it is seldom possible to find such a degree of sluggishness on the part of the stomach, in the absence of other impairment of function, as to warrant us in considering its possessor in the light of a patient.

As to treatment, strychnin combines the virtues of a bitter with positive stimulation of motor power. Gastric faradism is of service. Between the external and the internal application of the pole it seems that the former should be preferred, unless we wish to get a

decided mental effect in a hysterical case. The voltage of the induced current is so high that there can be little doubt of its "penetrating" power, while the passage of an instrument into the stomach should be avoided in the absence of some specific reason to the contrary.

THE DIGESTIVE FERMENTS.

Pepsin and rennet may be considered together. An excess is practically impossible, in fact these bodies act qualitatively rather than quantitatively. A failure of either ferment is not common, and when it does occur, it indicates very serious systemic depression or local atrophy. Gamgee has described methods of obtaining approximately quantitative results in the investigation of both ferments and their zymogens, depending on the digestion of stained fibrin in standard solutions of acid. For clinical purposes, a sufficiently accurate examination can be made by bringing the filtered gastric juice up to the standard hydrochloric acidity—2:1000—and noting the action on disks of boiled egg-albumin, which may be conveniently preserved in glycerin, or on the now official 50 per cent. solution of white of egg. Practically, it is seldom necessary to test for either pepsin or rennet. In general fevers, acute gastritis, advanced chronic gastritis with anadenia, in carcinoma, and, in fact, in almost every disease as death draws near, the formation of ferments fails. The great commercial value of pepsin is based on a misconception. In the ordinary forms of gastric indigestion, whether due to functional or organic trouble, pepsin is the one thing about which we need scarcely ever concern ourselves. When pepsin is needed, the case is so serious and the incapacity of the stomach so great that it is not often good practice to administer pepsin. On the contrary, nourishment should be maintained by the bowel or peptonized foods should be given. In other words, the stomach that cannot furnish its own pepsin should not be regarded as a digestive cavity.

Almost the only use which the writer has had for pepsin in the last two years has been in cases that lie outside his regular practice. One of these cases

was a suppurating wound of the hand with a slowly sloughing tendon-end; the other, an abscess of the abdominal wall, probably tubercular, though no bacilli were found in two examinations. In each case, the wound was dressed with a solution of pepsin and hydrochloric acid and the usual dry gauze and cotton applied externally. Under the ordinary antiseptic dressing, such wounds heal slowly, because there is much dead tissue that must be absorbed. In necrosis of bone, carbuncle, etc., many surgeons still prefer the old methods, which allow suppuration. Why? Because saprophytic germs actually digest the debris, as is shown by the presence of peptone in pus and in albuminous urine which has decomposed. The artificial digesting solution combines the advantages of both old and new methods. It is nearly aseptic, while the acid is positively antiseptic. While the range of the writer's practice is not such as to allow him the necessary experience in this treatment of surgical cases, it seems as rational as the attempt to digest a diphtheritic membrane, and it is to be hoped that a more thorough trial will be made by those who are frequently called upon to dress septic wounds.

In the course of typhoid fever and other conditions in which milk diet is indicated, patients are frequently encountered who do not digest milk on account of its coagulation in large masses. The writer remembers, in particular, a middle-aged woman, in fair, general health, who vomited repeatedly curds as large as walnuts, and having the peculiar agreeable odor of the artificial product. This case was successfully, though not radically, treated by the avoidance of milk for a time. The expedient of shaking milk with lime-water is time-honored, and it is well to remind patients who are on a milk diet that milk is a food rather than a drink, and that they must take it in small mouthfuls and mix it thoroughly with saliva before swallowing it. It seems probable that the function of rennet is not merely to curdle milk, which is a comparatively insignificant constituent of diet, after infancy, but that it is intended to coagulate all raw albumin, preliminary to a redissolution by hydrochloric acid—the first step in true gas-

tric digestion. Whether we are to look upon the curdling of milk in large masses as an increase of the rennet function, or whether it is due to a superficial and essentially deficient action is hard to decide. The literature on the subject is very meagre and unsatisfactory.

SUBACIDITY.

The most important consideration, not only in the diagnosis but in the treatment of gastric disorders, is the quantity of hydrochloric acid present. It has been proposed to classify even organic diseases on this basis, but such an attempt is an unwarranted generalization. Still, it is convenient to remember that the acidity is increased in typical cases of round ulcer; that it is decreased in mild cases of gastritis, and absent in most severe cases of gastritis and of cancer. But the notion that lack of hydrochloric acid is pathognomonic of cancer has been disproved. Cases of cancer, verified by autopsy, may be cited to show that this disease may be compatible with a normal or even an increased acidity, and, while the writer has personal knowledge of only one such case, he has a list of at least thirty examinations of stomach contents in which the ordinary tests have shown a complete absence of hydrochloric acid, but in which the subsequent history has removed all suspicion of malignancy. In fact, the entire absence of hydrochloric acid occurs in a surprising number of single examinations, and the investigation is thus simplified by the needlessness of quantitative tests.

In the writer's experience, about nine-tenths of all cases of functional dyspepsia—the expression is not tautological if we understand *dyspepsia* to mean the symptomatic side of any gastric disorder—fall into the subacid class, while about six-tenths of the examinations will justify the use of the term, non-acid. It has been proposed to make a three-fold classification of dyspepsia according as there was found "hyper-acidity, hypo-acidity, or anacidity." Such a classification loses sight of the important fact that an absolute or relative lack of hydrochloric acid is a difference in degree only, and that the condition may change from one meal to the next. It is also objectionable to attempt

to establish a technical nomenclature in the present uncertain state of our knowledge, and it is especially unfortunate that words of such incorrect etymology have been proposed. Still, it is not surprising that those who are dissatisfied with a simple statement of fact in English terms should make such egregious blunders in attempting to appear learned. Even the terms "super-acidity, subacidity, and non-acidity" are objectionable. A clearer conception of gastric neuroses may be had if we distinguish two general classes, characterized by depression and excitement, respectively. In neither will the ferments be at fault except in rare cases. In the former, acidity and motility will be below par unless the condition becomes secondarily one of irritation from the development of vegetable organisms and the production of organic acids. In the latter, hydrochloric acidity and motility will be increased, pain will be present, and the condition will simulate or possibly may develop into peptic ulcer. In individual cases, contradictions may exist, or one function may be affected without the participation of other functions. Any classification that takes cognizance of the exceptional cases will prove puzzling from its complexity. Having in mind the general principles, each case must be studied and treated on its own merits.

The prognosis in sub-acid and atonic dyspepsia (note that one type is meant) is good, except that it may not be possible for the patient to regain the necessary degree of vital strength. The simplest cases are often tedious on this account, but it must be borne in mind that a purely functional gastric disturbance may depend on serious organic disease of other parts. Last spring there was referred to the writer a young girl, apparently in good health, save for fermentative dyspepsia and general depression. The latter was accounted for by a recent death in the family and by confinement in-doors on account of bad weather. The treatment consisted mainly of hydrochloric acid, iron, and strychnin. The passage of the tube was not allowed, though the patient expressed her willingness to vomit the stomach contents after a test meal. Five milligrams of apomorphin failed

to excite a response. Accordingly, the finger was introduced into the patient's pharynx and well down into the beginning of the esophagus, so that the epiglottis and the posterior part of the larynx were palpated—all this without exciting vomiting or even gagging. A better proof of the atonicity of the case could scarcely be afforded. After several weeks' treatment, with some temporary benefit, the patient developed a broncho-pneumonia and was referred back to her family physician. The broncho-pneumonia proved to be the outbreak of tubercular disease, which had undoubtedly been latent, so far as physical signs were concerned—a careful examination had been made—but which had sufficed to determine the depression on which the dyspepsia depended. The death mentioned was not from tubercular disease, nor was there anything else in the history to suggest tuberculosis.

Atonic and sub-acid dyspepsia may also depend on renal insufficiency. In well-marked cases of Bright's disease, there are usually cardiac and hepatic complications, so that the circulatory derangement induces a gastric catarrh. In acute and in insidious chronic cases of nephritis, the stomach, without developing any organic lesion, becomes an eliminating rather than a digesting cavity. In such cases, lavage is of benefit, and it is often necessary to predigest the food. Too much attention cannot be given to the study of these cases, as the findings are not always typical. Thus, in a patient under observation from March to June, casts were never found, though there was dropsy and albuminuria. On March 3, 21.5 grams of urea were passed—a normal amount, considering the small size of the patient and her lack of appetite. As the dropsy at this time was not marked, the bladder was washed out to exclude extrarenal albuminuria. In twelve hours, ending May 11, 2,000 c.c. of urine were passed, containing only seven grams of urea. June 12th the twenty-four hour sample contained 2,250 c.c. of urine and twelve grams of urea. The patient died in August. Many other microscopical examinations of the urine were made, casts never being found. So far as the gastric symptoms were concerned, they

indicated lack of hydrochloric acid with moderate catarrh. The stomach was not dilated. It was at least two inches above the umbilicus, and passed the median line only by a quarter of an inch. Lavage was practised a few times to remove mucus and excrementitious products, but no examination was made after a test meal.

As a purely palliative treatment of atonic and sub-acid dyspepsia, it may be well to insure better digestion for a few days by administering papoid, the juice of pineapple, or by limiting the diet. The main treatment consists in the administration of hydrochloric acid and strychnin, with iron and arsenic if there be special indication for them, otherwise not. The writer has had several patients referred to him with the history that the attending physician had given hydrochloric or phosphoric acid unsuccessfully, or even that the acid caused a sense of burning and distress. In such cases the examination of the stomach contents has usually shown that there was a lack of acid and its use has been persisted in, in spite of the history, taking care that it was given sufficiently dilute. Theoretically, the normal proportion of free acid being 1:500 and the bulk of the test-meal being, with water, 250 centimetres, fifty centigrams of absolute acid would be needed, corresponding to a teaspoonful of the official dilute preparation. Clinically, a fifth or a tenth of this amount is usually sufficient. The mouth should be rinsed after the administration of the acid. The secretory effort of the stomach should not be anticipated, so that the acid is best given at the height of digestion, about an hour or an hour and a half after eating. If it is necessary to increase the dose, it is better to administer the acid in portions, beginning earlier and repeating every half hour for as many times as may seem desirable. If there is a special indication for a nerve tonic, phosphoric acid may be substituted; or, if there be diarrhea, sulphuric acid may be used. The use of nitric acid or of nitro-hydrochloric acid seems to have no advantage, even when the liver is sluggish. While strychnin fulfills the indication of stimulating both secretory and motor functions, in cases of extreme failure of peristalsis, the intestine and stomach

being both involved, cascara sagrada is of benefit. The diet should not be too much limited. An appetite, such as no amount of chemically correct nutriment can excite, is necessary; while the patient has a right to expect the physician to "level upwards" in bringing digestive power and dietary to the same plane. Tea, coffee, coarse vegetables and greasy foods may properly be excluded, otherwise the patient should be encouraged and aided to follow his inclinations with judgment in selecting a meal.

Paradoxical as it may seem, a very common complication of the subacid neurosis is sour stomach. The common form of treatment by means of soda and bismuth or other alkaline mixtures is only palliative and is liable to be directly harmful, since experimentation has abundantly proved that the alkali destroys whatever pepsin exists in the stomach, and, to a less degree, pepsinogen. Such treatment is distinctly allopathic; it is rational so far as the emergency is concerned, but it is only a question of time when the acidity must be restored and gastric digestion proceed, unless the irritating and fermenting chyme is poured almost wholly undigested into the intestine. That serious intestinal indigestion, diarrhea, etc., are not oftener produced, is due to the natural vigor of the combined alkaline digestion, not to good management on the part of the average physician. A little consideration will show that the acidity, although perhaps immediately irritating, is not the essential evil. Dyspeptics, who are subject to sour stomach, may take lactic acid with almost as good results as follow from the use of hydrochloric acid, while vinegar and acid drinks may be harmless. The real irritants are unknown secretions of the fermentative germs, the acetic and lactic acids are by-products of no particular importance, except in considerable quantities. Butyric, caproic and other organic acids seem to be more marked irritants. Sour stomach calls for antiseptics, not for alkalies—except in severe sick headache, when the aromatic spirit of ammonia is indicated—and, between menthol, carbolic acid, acetanilid, etc., on the one hand, and hydrochloric acid on the other, the choice ought to be in favor of the normal constituent of the gastric juice, unless there is a marked

indication for combined antiseptic and local anesthetic action.

In the treatment of any malady, in addition to the appropriate medication, we ought to raise the question, What can be done to remove the underlying condition? In the case of subacid dyspepsia, there is either a nervous deficiency which prevents the proper elaboration of chlorids into hydrochloric acid or there is an actual lack of chlorids. In many instances patients will say that they hardly ever eat salt; in other cases it is not possible to demonstrate a deficiency of chlorids. However, it seems to be rational, in either case, to urge a liberal use of salt in order to favor the formation of the corresponding acid.

SUPERACID DYSPEPSIA.

The superacid neurosis being of an irritative type, we shall expect no interference with digestion except in the case of the carbo-hydrates, diastasis being inhibited by an excessively acid medium. The physician, however, feels the same kind of anxiety in regard to the rapid albuminoid digestion and absorption that he does in watching the accelerated pulse and increased functional activity of the body in sthenic fever. As to treatment, the writer takes exception to the use of the tube after the diagnosis is fairly well established. The indication is, plainly, to disturb the stomach as little as possible. The need for local sedatives, such as bismuth subcarbonate, charcoal, and other dry dressings, and for anesthetics, like carbolic acid, acetanilid, cocain, etc., may be great or it may not. Three methods have been suggested to antagonize the acidity; meat and other albuminoids to exhaust the hydrochloric acid in forming organic compounds; alkalis to form neutral salts; water to dilute the irritating secretion. But we must also remember that these same means, while doing away with present acidity, call forth a greater secretion. The cautious man who essays to follow either of these neutralizing methods or that involving simple dilution will fail. This is no time for the pursuit of a golden mean. Successful treatment must go to one extreme or the other. Either the stomach must be kept almost constantly engaged, or it must be resting, with no stimulus of any kind to call forth its glandular

activity. In the latter case, the rectum may be depended on for nutrition for a few days, and meanwhile, the store of chlorids must be depleted. Salt should be interdicted, whatever water is allowed should be distilled, and the writer would still further recommend the use of the hot-air bath to remove salines through the sweat ducts. The later treatment should include tonic and hygienic measures, having in mind not so much the stomach as the overwrought nervous system.

There has been a growing tendency in the last few years to regard gastric ulcer as the culmination of the superacid neurosis and to deny the older theory of digestion after infarction. In studying two series of cases of gastric ulcer by Stoll and Kugel, respectively, aggregating fifty cases, the writer found that acidity was normal in 50 per cent. of the cases in which examination had been made, increased in 25 per cent. and diminished in 25 per cent. There must, however, be some misapprehension as to the report or a difference of opinion as to what constitutes normal acidity, since Stoll, in a personal letter, states that his results establish the fact that acidity is increased in about 50 per cent. However, he does not regard increased acidity as a potent cause of gastric ulcer, stating that 33.3 per cent. of all cases of the latter are due to respiratory diseases and 20 per cent. to circulatory diseases, while various other systemic and local vascular changes are responsible for an additional number of cases. Still, the possibility of the development of gastric ulcer in cases of superacid dyspepsia must be greater than when the acidity is at its normal point, and this must be borne in mind as demanding great caution in the local treatment of the neurosis as well as of the established ulcer. Stoll's report shows, moreover, that the typical case of gastric ulcer is not that of an anemic young woman, but rather that of a middle-aged or elderly person, there being no greater preponderance of women than would be expected from the fact that more men than women die of traumatic lesions, leaving more old women than old men to die from any cause.

With gastric supersecretion, not marked by superacidity, the writer has had no experience.

OCULAR CONDITIONS IN THEIR RELATION TO CONSTITUTIONAL STATES.*

GERTRUDE A. WALKER, A.B., M.D.,† PHILADELPHIA.

The fact that you have invited me to address you on a subject such as this shows that as a Society you believe that ophthalmology should not be a sealed book to the general practitioner. A considerable number of physicians in general practice use the ophthalmoscope, relying upon it for suggestion or for proof regarding certain obscure affections of the body, but a far greater number know practically nothing of this valuable means of diagnosis. I am told that physicians abroad are much more familiar with ophthalmoscopy than are average American physicians.

My own observation of general practitioners in Philadelphia justifies me in saying that not one in a hundred knows how to obtain a satisfactory view of the eyeground. If I can convince you, during this short talk, that the eye—wonderfully delicate, sensitive and expressive organ that it is!—can disclose many a medical secret and unfold many a beautiful and suggestive picture, I shall count this hour one of personal satisfaction.

May I ask you to briefly review with me the gross anatomy of the eye? The organ is nearly globular in shape, as you know, restrained in the bony orbit by six muscles, which arise near the foramen opticum, and also by the optic nerve, which passes through the foramen and pierces the eyeball posteriorly a little to its nasal side. The globe rests upon a cushion of fat and connective tissue, and so is shielded from injury everywhere except at its anterior portion, where the lids take up the duty of protection. The optic nerve expands at once after its entrance into the eye and becomes the retina. Lying directly under the retina is the most vascular coat of the eye—the choroid—so-called from its resemblance to the chorion.

Back of the choroid lies the sclera, a hard, fibrous, non-elastic envelope, which is thickest behind and gradually becomes thinner as it approaches the anterior portion of the eye, in which latter part it is reinforced by the insertions of the ocular muscles.

Anteriorly, the cornea, which is a transparent, highly-sensitive, non-vascular tissue, is placed like a watch crystal upon the globe, fitting at its edge into the hard sclera. If you will look at the profile view of your neighbor's eye you will see how closely the cornea resembles a watch crystal.

At the point where the cornea and sclera coalesce is found a very important structure—the ciliary body, made up of the terminating parts of the choroid and retina. From this body springs the iris, which, like a perforated curtain, hangs but a few millimeters behind the cornea, guarding, as it were, the delicate structures behind it from outside violence and undue light. Directly behind the iris lies the lens, supported all around by its suspensory ligament, which is attached to the ciliary body. The small, angular space between the periphery of the lens and the iris is called the posterior chamber, while the space between the iris and the cornea is called the anterior or aqueous chamber.

The vitreous is enclosed in a very thin membrane of its own, and presents on its anterior surface a depression called the fossa patellaris, in which rests the lens.

Having thus briefly spoken of the structures of the eye, let us consider what is meant by an ophthalmoscopic picture or view of the eye-ground. A little practice overcomes the technical difficulties of throwing light into an eye through the pupil by means of a small, perforated mirror. Through the hole of the mirror the observer studies the several parts of the eye-ground.

* Read before the Students' Medical Association, and published by request.

† Clinical Instructor of Ophthalmology at the Woman's Medical College of Pennsylvania.

First is seen the optic nerve, magnified some fourteen times by the dioptric mechanism of the eye itself. The normal nerve-head (disk or papilla) appears nearly round and about one-third of an inch in diameter. In reality it is but one and a half mm. in diameter, or about one thirty-second of an inch. From its center emerge the central retinal artery and vein, the artery slightly smaller and lighter in color than the vein. They separate immediately into superior and inferior branches and supply all parts of the retina. The retinal artery is a terminal vessel and presents no anastomoses.

We must remember that the branches, which are quite visible to our eye as it looks through the sight-hole of the ophthalmoscope, are in reality only about one one-hundredth of an inch in diameter at their broadest parts, and about one seven-hundredth of an inch at their smallest parts. The retinal capillaries are invisible, but in certain diseased conditions of the eye the capillaries of the optic disk become macroscopic in size.

Think of what a valuable source of information is this actual observation of a terminal artery and a commencing vein, with circulation of the blood going on in both! Nowhere else in the body can such an observation be made without doing violence to the organism. I remember distinctly my own sensation of awe when for the first time I saw the column of blood in the retinal vein rise and fall in faithful representation of the heart's action. You feel it in the wrist; you see it in the eye.

The vessels which give the eye-ground the red color which one notices at once on looking into the eye, are not the retinal, but the choroidal vessels. It is not possible, however, to see the choroidal vessels themselves, except in diseased conditions, or in the eyes of very light-complexioned people, or in those of the albino.

Since the eye is so closely connected, both vascularly and nervously, with the brain, it is but natural to infer that lesions of the brain would cause marked changes in the fundus of the eye; but so far as vascular changes are concerned the eye is not so good an index of disturbances in cerebral circulation as one might imagine.

The ocular circulation is, as it were, a mechanism by itself, enclosed within a chamber the tension of which is quite constant and exerts such a controlling, or regulating, influence upon the vessels within it that they show few, if any, signs of disturbances in the larger cerebral vessels. Cerebral anemia and hyperemia are usually dependent upon general conditions which often produce typical changes in the vessels of the eye, and these changes are of diagnostic value in determining the original causes of cerebral disturbance,—as for instance, in a case of cerebral hemorrhage due to Bright's Disease.

The optic nerve is more likely to become indicative of cranial conditions than are the ocular vessels. The optic nerve exhibits two varieties of change,—first, those caused by inflammation, and second, those caused by atrophy.

Optic neuritis is a very valuable indication of brain tumor; neuritis not traceable to a general condition is usually due to an intracranial growth, and, conversely, in at least four-fifths of the cases of known brain tumor, optic neuritis is present; therefore, inflammation of the optic nerve may be the one and only sign of cerebral growth. As a prognostic sign it is also of value. A subsidence of the neuritis argues the retrogression of the growth, and a neuritis of chronic type points to an intracranial tumor of probably chronic nature. In cases of known brain tumor, the onset of neuritis is an unfavorable sign and usually occurs not long before death. Cerebral tumors may cause atrophy of the optic nerve by pressure, but this pressure must always be either upon the chiasm or upon the nerves in front of the chiasm, as pressure on a tract very rarely produces more than a slight loss of function in the nerve.

Optic atrophy is a very significant change in locomotor ataxia, but it occurs in only about one-sixth of the cases. It is an early rather than a late symptom. A patient may be totally blind from optic atrophy and yet present few recognizable symptoms of locomotor ataxia. It is easy to attribute the uncertain movements of blind people to ataxic causes, but inquiry as to the "lightning pains", the "cushion sensation", and observation as to loss of reflexes usually lead to a correct diagnosis. The Argyll-

Robertson pupil is another early symptom of locomotor ataxia, *i. e.*, a loss of reflex response to light on the part of the pupil.

An atrophied optic nerve is grayish white in color, or, in extreme cases, even perfectly white. The vessels are usually of normal size.

Another ocular sign of diseases of the nervous system is *nystagmus*, a peculiar oscillation of the eyeballs which has no doubt been observed by you all. It is often due to lesions of the central nervous system.

In tubercular meningitis there often occur growths in the eye which, if recognized, become proof positive of the nature of the disease. Tubercles of the choroid occur more frequently in general tuberculosis without meningitis, however, than in tubercular meningitis alone. If examination of the eye is made after the meningitis develops, the ocular changes are more corroborative than diagnostic. If, however, the eyes of an obscure case are examined comparatively early in the course of the disease, the presence of choroidal tubercles becomes actually diagnostic. The bodies are yellowish in color, isolated as a rule, and quite round in shape. Usually the real size of the tubercle is two or three times as great as it appears to be, for its reddened edge blends with the red of the choroid. The tubercles vary in size from one-fourth to three-fourths the diameter of the disk, which, you remember, appears as if it were about one-third of an inch in diameter.

Occasionally the tubercles coalesce to form a mass as large or larger than the disk. They are known to lie in the choroid because the retinal vessels pass over them, and they are distinguished from spots of atrophy or exudation by their yellowish color and rounded shape. They are an almost invariable accompaniment of general tuberculosis, and always occur in both eyes, though often more marked in one eye than in the other. Inflammation of the optic nerve is often an accompaniment of tubercular meningitis. The nerve head is red and swollen through direct extension of the inflammatory process in the meninges.

Turning now from cerebral states, we shall find very varied and typical phenomena in the eyes of those suffering

from diseases due either to circulating poisons in the blood or to impoverishment of the blood from other causes.

I. IN THOSE DISEASES DUE DIRECTLY TO CIRCULATING POISONS IN THE BLOOD.

It is obviously impossible to describe the ocular symptoms of all the many diseases which come under this head. Consequently, I select those diseases which, it seems to me, will be of most interest to you.

These are rheumatism, gout, Bright's disease, syphilis, lead poisoning, tobacco poisoning, typhoid fever, scarlet fever, diphtheria and septicemia. Tuberculosis is omitted from this list because it has already been considered under meningitis.

A frequent complication of rheumatism is found in a disease of the anterior part of the eye, iritis. Rheumatic iritis is very common. If not recognized early and given appropriate treatment, adhesions form between the iris and lens and sight is thus permanently injured.

Ophthalmoscopic changes are not significant in rheumatism. In the closely allied disease, gout, there are, however, many significant ocular phenomena. Hemorrhagic retinitis is rarely seen except in gouty patients, and may, therefore, be the means of directing attention to the hitherto obscure cause of ill-health. The hemorrhages are usually flame-shaped, following the direction of the retinal fibres. They are, of course, red in color, and they tend to sink by gravity to the lower part of the fundus. In the hemorrhagic type of retinitis the extravasations are usually small and numerous.

Retro-bulbar neuritis, *i. e.*, inflammation of the nerve trunk behind the globe, is very often due to gout. Vision is greatly affected, the disturbances of sight varying in accordance with the part of the nerve involved by the inflammation.

Gout has a direct and powerful influence in the production of kidney disease, hence the consideration of ocular changes in Bright's disease naturally follows. Nephritis is coincident with changes in the blood-vessels throughout the body, but we can really see these changes only in the eye. The vessel walls are thickened, the outer coat showing its sclerosis

by the presence of white lines along the sides. The arteries, moreover, are narrowed. Weakening of the blood-vessel walls, together with increased vascular tension, caused both by narrowing of the vessels and by heart complications, are causes of hemorrhages into the retina.

The peculiar form of retinitis known as "albuminuric" is one that deserves somewhat detailed description. Both eyes are usually affected. The changes seem to bear no constant relation to the amount of albumin in the urine, but they seem to be coincident in most cases with the development of cardiac hypertrophy. While it is true that many cases of renal disease owe their discovery to an observation of the eye-ground, it must also be borne in mind that cases occur in which retinal changes are a very late or even entirely absent symptom. Rarely are these changes seen in functional albuminuria. The most striking sign of albuminuric retinitis is the presence of white spots in the retina. Their usual location is in the vicinity of the macula lutea, which is, as you know, about a disk's diameter and a half distant from the temporal margin of the disk. These spots, which are often elongated, are often arranged in a radiating manner with the macula lutea as a center. They are usually white and glistening. They are dependent upon degeneration of the nerve fibres, and are glistening because of deposits of cholesterin. Similar ocular changes occur in diabetes, and it becomes a delicate matter to distinguish the differences between the albuminuric and the diabetic spots. The latter are more diffuse and larger than the former. Cataract, or opacification of the crystalline lens, is a frequent complication of diabetes and is not favorable for operation, owing to the improbability of satisfactory healing of the wound.

Syphilis brings to our notice a greater number of ocular complications than any other disease. Syphilitic iritis and keratitis are familiar to you, for they are very common affections. Next to the iris, the choroid is the tissue of the eye, which suffers most in syphilis. There are numerous types of choroiditis, the "disseminated" being, perhaps, the most frequent.

Inflammation of the retina also occurs as a result of syphilis. Involvement of the vitreous is also common, and one of the most beautiful appearances ever seen in the eye is that called "synchysis scintillans," a condition in which fine, dust-like, dazzling particles float in the vitreous like a cloud of stars.

Some of the eye affections seen in inherited syphilis are striking. Chief among them is keratitis of the interstitial type. The clear, crystal-like cornea becomes clouded and may suppurate or ulcerate. Permanent injury of the cornea usually results. Within the eye, the child with inherited syphilis may present disseminated choroiditis, atrophy of the disk, or other lesions.

Lead poisoning and tobacco poisoning can receive only passing notice. Temporary, or, sometimes lasting injury of sight, is the usual symptom, due to inflammation of the nerve sheaths. There are characteristic affections of sight, both for form and color.

The only ocular sign in typhoid fever is double optic neuritis, and this is said to be rare. About two years ago I was fortunate enough to observe such a case in the Woman's Hospital. A boy, fourteen years old, came to the eye clinic complaining of sudden loss of vision and general indisposition. Both disks were found to be much swollen, and vision was almost lost. The next day he was admitted to the hospital and suffered a typical course of typhoid, with one relapse and subsequent recovery. Unfortunately, I did not see the case afterward.

In scarlet fever there occur affections of sight which may or may not be dependent upon the renal disease which is so frequently an accompaniment or a sequela. Uremia frequently produces a sudden and total abolition of vision. This is called "amaurosis," from a Greek word meaning dark. It passes away and leaves no permanent signs of disturbance.

Common sequelæ of diphtheria are paralysis of accommodation and paralysis of one or more of the external ocular muscles. Recovery takes place slowly.

Pyemia and septicemia are productive in some cases of destruction of the eyeball by a process of inflammation called "panophthalmitis." It is caused

by septic embolism. One ocular tissue after another gives way, until the organ is entirely destroyed. Enucleation is indicated for the sake of saving the other eye from sympathetic ophthalmia.

II. IN DISEASES DEPENDENT UPON IMPOVERISHMENT OF THE BLOOD FROM OTHER CAUSES THAN CIRCULATING POISONS.

In chlorosis the eye-ground is pale in proportion to the extent of the disease. It is extremely interesting to make a microscopic examination of the blood of a chlorotic patient and note from time to time the increasing redness of the eye-ground as the number of corpuscles and percentage of hemoglobin is increased by treatment.

Neuritis may accompany chlorosis, although it does not frequently do so. In this condition even slight refractive error of the eyes makes itself disagreeably felt, chiefly by headache, blurring of vision, and loss of tone in the ciliary muscle. Such patients should be carefully tested for glasses, and should be required to wear their correction until the general health improves.

In pernicious anemia we observe broad retinal veins and narrow arteries, this phenomenon being due to the underfilling of the vessels. The tendency to hemorrhage is a characteristic feature of this form of anemia.

In leucocythemia both the retinal and choroidal vessels are extremely pale, and the veins are very broad in proportion to the narrowed arteries. Retinal hemorrhage is very common in this disease. In addition to these appearances, irregular whitish spots are found near the macula. They are aggregations of leucocytes, and have given rise to the term "leukemic retinitis." After death, in such cases as these, leucocytes are found in great number in the retinal capillaries.

An interesting case is reported by Hirschberg, in which hemorrhages into the retina had caused aberration of vision. The patient "sought advice in consequence of seeing a red balloon constantly before his right eye. The ophthalmoscope showed a large hemorrhage of corresponding shape in the macular region. . . . His blood and spleen were examined, and the diagnosis of leucocythemia established."

I would like, in closing, to recommend to your attention a very excellent book called "Medical Ophthalmoscopy," by W. R. Gowers, of London. To it I am indebted for many of the observations contained in this paper.

The new invention of J. C. Anderson for destroying garbage has been given a three months' trial in Chicago and has proven so successful that the City Council has asked the State Legislature for permission to enter into a contract for its use. The New York authorities are also considering it. The machine is patterned after the Anderson brick tunnel, which Mr. Anderson invented several years ago, and which is now in such general use. The scheme is to load the garbage on fire-proof cars, which pass through a concrete tunnel (in which is a double track) in opposite directions. At the centre of the tunnel the garbage is reduced by being heated to a white heat, and each car going out gives out an intense heat, which dries out the garbage on an incoming car. Mr. Anderson has also invented a pneumatic poker which is used to stir up the garbage on these cars while passing through the tunnel. It consists of compressed air being driven through a steel tube, with a small addition of petroleum. He has taken out over 100 patents on brick machines and bricks.—*Philadelphia Record*.

Cynicism as a Tonic.

"I hate cynicism a great deal worse than I do the devil; unless, perhaps, the two are the same thing! And yet 'tis a good tonic, the cold tub and bath-towel of the sentiments, and positively necessary to life in cases of advanced sensibility."—ROBERT LOUIS STEVENSON.

Curiosities of Aphasia.

Pitres states in the *Journal of Eye, Ear and Throat Diseases* that in recovery from aphasia in persons who speak several languages the mother tongue is first restored, and the use of dialects and idioms is next regained.

The railway metals between London and Edinboro, a distance of 400 miles, are 210 yards longer in summer than they are in winter, owing to the expansion caused by the extra heat.—*Exchange*.

CURRENT LITERATURE CONDENSED.

Four Cases of Vesical Calculus Removed by Litholopaxy Under Local Anesthesia.¹

In each operation the patient's bowels having been emptied, he was given, half an hour before the operation, a subcutaneous injection of a sixth of a grain of morphin and a hundredth of a grain of atropin, and fifteen minutes later he was given an injection of a fiftieth of a grain of glonoin and a thirtieth of a grain of strychnin. He was then placed on the table and the bladder emptied and thoroughly washed with sterile borax solution. Two ounces of a four per cent. solution of cocain hydrochlorate were then injected into the bladder, the catheter being withdrawn into the prostatic urethra, so that the solution should be brought into contact with the deep urethra.

The anterior urethra was then filled with two drachms of the cocain solution, which was retained for five minutes. At the expiration of this time the anesthesia was complete. The operation was then performed as usual.

In two cases in which the operation was prolonged, in the one for forty minutes, in the other for an hour, some discomfort was caused in the last few minutes by the use of the evacuator; but at no time was the pain such as to require a renewal of the anesthetic. In the other two cases lasting twenty-five and twenty-eight minutes respectively, there was an entire absence of pain and discomfort.

All of these operations were performed on old men. Three of them had obstructive enlargement of the prostate; the fourth had been operated upon by me three years before for enlargement of the prostate and the entire prostate and about fifty prostatic calculi removed.

Three of these patients had general arterial sclerosis and chronic nephritis and were exceedingly bad subjects for general anesthesia. In one case there was a slight acceleration of the pulse, in another the patient was somewhat excited for the first two or three minutes,

and in two cases operated on late in the afternoon the patients were somewhat wakeful through the night.

The preliminary use of glonoin and strychnin was employed at the suggestion of my colleague Dr. Hermann M. Biggs, and I believe it to be of value in counteracting the dangerous effect of cocain on the circulation. Dr. George Chismore, of San Francisco, has used cocain anesthesia extensively for litholopaxy but in cases with prostatic enlargement does not attempt to entirely remove the stone at the first sitting.

Congenital Teeth.²

The following case was presented by the writer to the Cincinnati Obstetrical Society. February 22, 1896, I was called to Mrs. L., II-para, in labor at eighth month of gestation. Twins, both male, were soon delivered, the first a vertex and the second a shoulder presentation, which necessitated turning. One was immediately observed to have two inferior incisor teeth presenting; both children were small and poorly developed. The mother was a very small woman. The teeth were both very loose and in continual danger of dropping out. One disappeared at the tenth week, probably being swallowed. The other remained *in situ* until the death of the child, which occurred two weeks later. It died in convulsions away from home, and the physician who was sent for ascribed the cause of death to meningitis. Premature labor in this case was at eight months; in that reported by Crausius at sixth months; in Hellwig's case at seven months. Lann also reports a case in which premature labor occurred. Extraction of teeth in the mother during pregnancy has been reported by Flesh. In the writer's case two teeth were extracted during the third month.

These cases are of very rare occurrence and serve as a curiosity for doctors and students. Some writers claim that no milk teeth will appear to fill the vacancy left by exfoliation.

The most important contributions to this subject are by Jacobi, Forchheimer,

¹Samuel Alexander, M.A., M.D., *New York Medical Journal*, January 30, 1897.

²Dr. E. S. McKee, Cincinnati, Ohio, in *Medical Standard*.

Pliny, Bartholin, Magitot, Schuerig, Ballantyne, Pierce, Vargas, Buist, and Mackenzie. Congenital teeth are very rare. In the reports of the Paris Maternité, 1856 to 1863, out of 17,573 births only three cases of congenital teeth, or about one in 6,000, are noted. Ballantyne, in the *Edinburgh Medical Journal* for May, 1876, reports seventy cases taken from the literature.

Dr. C. C. Surber, of Independence, Kansas, writes me that six years ago he delivered a patient of a boy who had two central inferior incisor teeth, one-eighth inch long, and very sharp but loose. He removed them four weeks later because of the cutting of the upper gums. He has not seen the child since it was four years old, but the incisors had not then made their appearance. Dr. George W. McCoy, of Columbus, Ind., reports to me by letter that on December 27, 1874, he delivered Mrs. M. of a male child normal in every respect except two teeth in the upper gums—one full length and the size of temporary teeth, the other small and about half through the gums. Both teeth were exfoliated about the fifth week. The child is now a hearty and strong man.

This freak of nature has been noticed at wide intervals and with great rarity for a long time. Shakespeare makes frequent reference to it. In "Richard III," the Duchess of York says: "Marry, my uncle grew so fast that he could gnaw a crust at two hours old. 'Twas full two years ere I could get a tooth." Queen Margaret: "That dog that had his teeth before his eyes." King Henry VI: "Teeth hadst thou in thy head when thou wast born, to signify that thou camest to bite the world." Richard: "For I have often heard my mother say I came into the world with my legs forward. The midwife wondered and the women cried: 'O Jesus, save us, he is born with teeth;' and so I was, which plainly signified that I should snarl and bite and play the dog."

In English and French history we learn that Richard III, Louis XVI, Richelieu, Mirabeau and Mazarin were born with teeth. Inheritance is shown in some cases. In the instance of Mattei, the infant's mother had been born

with a tooth, and in Limerick's the mother had two congenital teeth, as did also her second child and a child of her sister.

The premature eruption of the teeth is considered to be due to some abnormal development of the bone; probably most cases have some connection with rickets. In some children who cut their teeth young, the fontanelles close early, but not so in those cases where the teeth are congenital. The enamel is usually very thin or absent. The etiology of congenital teeth is described by some authors as the premature occurrence of the processes which normally lead to the cutting of the milk teeth. In a few cases it is probably due to a true estropia of the dental follicles and its tooth. Such premature eruptions are usually found in children suffering from improper nutrition or other abnormal systemic conditions.

Treatment: A tooth dangling uselessly and aimlessly in the mouth should unquestionably be removed. Otherwise inaction is preferable. The teeth are sometimes so situated as to prevent closure of the mouth, or to make nursing painful and futile and to endanger the nourishment or life of the child. The danger of hemorrhage is probably magnified by Magitot, who, having lost one child in whom hemorrhage recurred on four separate occasions and proved fatal despite all treatment, lays down the rule never to extract the teeth. If the child is puny and delicate, perhaps syphilitic, hemorrhages are possible.

Suicide: Notes of its History, Pathology, and Treatment.³

It is commonly assumed, and probably not without reason, that the practice of suicide, at all events in civilized countries, is decidedly increasing. In making this admission, however, we must take account of other factors besides those which conduce to intensify the struggle for existence and so to heighten nervous strain and engender worry and despair. We have to deduct somewhat from the total of our conclusions because of our ignorance of the unrecorded customs of past times.

We know also that suicide has, in older states of society, had a place in

³ *Lancet*.

the waywardness of fashion. Other Romans died like Brutus. The many-sworded gentry of Japan were forbidden by etiquette to survive an eclipse of the sunshine of imperial favor. We might, no doubt, by searching, multiply such illustrations and so, if only by comparison, redeem somewhat the character of our own less romantic but, perhaps, more harassed age.

It is in keeping with the modern scientific tendency that suicide in its mental relation should have been made a subject of inquiry. The latest effort of this kind with which we are acquainted is a short "Study with an Attempt at Classification" by Dr. Leonhardt, of Lincoln, Nebraska. There is, according to this writer, something to be said both for and against suicide, though a further examination of his views must, in the opinion of most persons, considerably modify this rather equivocal statement. In his classification cases are included which few of us would ever think of placing there.

It is divided into three sections: (1) the irresponsible, where the fatal act has been that of a feeble or disordered intellect; (2) the innocent, where death has been the cost of a martyr's or a hero's obedience to duty; and (3) the criminal, where a selfish reason is the motive.

It is not always an easy matter to

separate this third class from the first, and it may be said that a grain of truth at least can constantly be found in the verdict of temporary insanity which is so regularly characteristic of the opinion of coroners' juries on the victims of suicide. Very few persons, on the other hand, would ever dream of applying the term "suicide" in any but a purely poetic sense to those persons whom Dr. Leonhardt includes in his second class. If we were strict in using his nomenclature in such cases this term would practically cover a large majority of all deaths, for after all the wear and tear of life voluntarily encountered must have something to do with its termination.

We prefer to accept his third class as including all instances of self-destruction which are truly voluntary and accountable acts, and which, being the effects of a self-centered concern, are essentially criminal. He says that "no altruistic suicide is ever criminal." In truth, deliberate and intentional self-destruction, which is in the great majority of cases regardless of the claims of others, is that form which the public sense invariably associates with the term "suicide." As such it is commonly and justly repudiated by all well-balanced minds, even in the presence of despair. Its cure is in an active altruism with its roots in faith, will, and duty.

TRANSLATIONS.*

Treatment of Goutre with Extract of Thyroid.

Stabel reported, at the annual meeting of the Berlin Medical Society, a series of cases treated with fresh thyroid and thyroïdin tablets manufactured in Germany. In most instances, slight reduction in the circumference of the neck had been noted and temporary improvement. Few cases were permanently cured but a relapse was to be expected after discontinuing treatment. The fresh thyroids had given much more satisfactory results and he thought that the tablets contained a minimum of nutri-

tive material and an excess of toxic products which cause rapidity of pulse, etc.

Ewald, in the discussion, expressed a preference for the tablets but had used those of English manufacture, and described a simple method of testing the iodine of tablets. After extracting fats with ether, the remainder of the extract was smelted with caustic soda and salt peter, dissolved in water and treated with strong nitric acid, to free the iodine. The vapor could be plainly seen in most cases; if not, it could be extracted with chloroform (and doubtless with starch).

Kleist described an interesting experience of his own family. When a boy,

*Translated for MEDICAL AND SURGICAL REPORTER by A. L. Benedict, M.D.

his parents, a brother and himself, had spent some time in traveling through the Thuringer Wald and neighboring country. In the course of four weeks, all four had contracted good-sized goitres. Under treatment with iodine, externally, his brother and himself who had the parenchymatous form of inflammation, were cured in a few weeks but his parents who had the fibrous form, were not cured for a year. This part of Germany had been noted for its goitres, which were popularly ascribed to the custom of the women to carry burdens on their heads, holding them in place by straps passing across the neck in front.

There was some difference of opinion regarding the *a priori* value of thyroid extract in Basedow's disease, some holding it to be essentially one of exaggerated thyroid function, in which case thyroid extract would be contraindicated. There was substantial agreement that the extract did little good in these cases but, as Ewald remarked, it was not always possible to differentiate between Basedow's disease and parenchymatous inflammation. Two cases of death from the self administration of thyroid tablets were reported, both characterized by mental aberration with delusions of persecution.

Epidemic of Extra Genital Syphilis.

Gebert reported, at the annual meeting of the Berlin Medical Society, the following series of cases: A woman presented herself at a clinic on account of an eruption which proved to be syphilitic, the primary sores still being visible at the nipples (both). Her husband who accompanied her, was free from the disease. Investigation showed that nine persons out of three neighboring and neighborly families had been infected extra-genitally. The origin of the epidemic was the fiancé of a young woman in one of these families, who had communicated the disease by sexual intercourse. The young woman, by kissing, had transmitted the virus to her virgin sister, aged fifteen, and to three brothers. All showed the vestiges of labial chancres. One of the little boys had communicated the disease to the infant of the woman first mentioned, as well as to an infant of the third

family, either by kissing or by an infected spoon. The infants, in turn, had transmitted the disease by nursing at their mothers' breasts, and hence, the disease had infected the two other families.

Cyclops.

A case of cyclops was presented by Lövinsohn, a guest of the society, at the annual meeting of the Berlin Medical Society. The fetus had lived about half a minute after delivery. The mother had been married ten years and had borne five healthy children. The case was not one of cyclops in the strictest sense of the term, but rather of synophthalmus, two eyes lying in a single orbit at a distance from each other of half a centimeter. There was also a tumor the size of a fist projecting from the widely patulous anterior fontanelle. This was either hydrocephalic or encephalic. The labor had been complicated with an excess of amniotic fluid. After four or five liters had been drained off, a dorso-anterior presentation was found, with the head to the right. By pressure on the shoulders, this was changed to a vertex presentation and, by the escape of more amniotic fluid, the head engaged firmly. Good pains set in and birth occurred spontaneously twenty-five minutes later. After three quarters of an hour, as the placenta had not come away and Crede's method resulted only in the expulsion of clots, the hand was introduced and the placenta peeled off. It was normal except for fibrous thickening.

Experimental Phthisis.

At the annual meeting of the Berlin Medical Society Aronson showed a tuberculous lung, of no especial pathologic interest except that it came from a goat which had been infected experimentally, had shown the usual symptoms of phthisis and had died about fifteen months after inoculation.

If a cylinder of liquid acetylene gets hotter than 99 degrees Fahrenheit, according to the *Gas World*, it gets into a state in which it can no longer retain the liquid form, but becomes a gas occupying the same volume but under an enormous pressure.

1853-1897

THE MEDICAL AND SURGICAL REPORTER

Issued Every Saturday

Editorial and Publication Offices, 1026 Arch Street, Philadelphia, Pa.

EDITOR

HAROLD HAVELOCK KYNETT, A.M., M.D.

ASSISTANT EDITOR

G. C. CLIFTON HOWARD.

STAFF EDITORS

A. L. BENEDICT, A.M., M.D.

BUFFALO, N. Y.

A. A. ESHNER, M.D.

Ex-officio Phila. Co. Med. Soc.

THE BUTLER PUBLISHING COMPANY, P. O. Box 843

H. H. KYNETT, M.D., MANAGER

WILLIAM H. BURR, M.D., ASSOCIATE MANAGER

TERMS:—One year, three dollars in advance. Four months' trial, one dollar in advance. Subscriptions may begin at any date.

REMITTANCES should be made by Draft, Money Order or Registered Letter, payable to the order of the Butler Publishing Company.

CONTRIBUTIONS of value to the medical profession are invited from all sources. Original articles, contributed exclusively to the MEDICAL AND SURGICAL REPORTER, will be paid for, after publication (payments made quarterly), or reprints will be furnished. Orders for reprints must accompany MSS. To ensure the return of contributions not made use of, writers must enclose return postage.

THE MEDICAL AND SURGICAL REPORTER will not be responsible for the opinions of its contributors.

PHILADELPHIA, SATURDAY, MARCH 6, 1897.

EDITORIAL.

MORTALITY OF THE STATE OF NEW YORK FOR 1896.

The Bulletin of the New York State Board of Health for December, 1896, as well as the summary for the entire year, has just been received. Even this mass of figures is by no means uninteresting or devoid of practical lessons. The total mortality was about 140,000, or 19:1000 of population, which has been about the ratio since 1890, though a slight average diminution is noted. The infant mortality is 34.5 per cent. of the total, rising to 41.1 per cent. in the summer, falling to 29.6 per cent. in the winter.

The correspondence between crowding and infant mortality is conspicuous. Thus, the maritime district, including greater New York, has 39 per cent. of

its deaths occurring in persons under five years of age; the Lake Ontario and Western District, including no towns of more than 6,000 inhabitants, except Rochester and greater Buffalo, 30 per cent.; the southern tier of counties, whose largest towns are Binghamton and Elmira, about 35,000 each, only a little over 14 per cent.

We would venture the opinion, however, that these statistics can scarcely be interpreted as meaning that hygienic conditions in large cities are intrinsically bad, but that our foreign population gravitates to the cities and that this class, from inability and carelessness, has a high infant mortality corresponding to its prolific tendencies. We are

reminded that, recently, some one has had the courage to say that the old American families, though producing noticeably fewer children, are more apt to rear what they do have than were their ancestors. Certainly, our own studies in this direction confirm such an idea.

Although the general death-rate is slightly higher in proportion to the population of the cities contained in the several districts, it is plain that hygienic science has made the greatest advance in cities. The southern tier mortality is only 13 to 1000, that of New York City and its environs, 21.5 to 1000. The Lake Ontario and Western District has a mortality of 15 to 1000, only 2 to 1000 higher than any of the rural districts and decidedly lower than any of the other mixed city and rural districts, although it contains a far higher urban population than any but the maritime district.

All things considered, it seems pretty evident that a person able and willing to observe ordinary hygienic and moral rules, is likely to live longer in a large city than in a small town and as long as in the open country.

No greater evidence of the practical life-saving progress of sanitary science can be asked than the records regarding typhoid fever. For each one thousand deaths from all causes, the maritime district shows but 7.6 from this disease, while the southern tier district, which has as low a total mortality as any, shows thirty-two preventable deaths from typhoid. We are inclined to the opinion that this is very largely a matter of geography of water-courses, the drainage being toward the southern counties.

The drainage problem can be well studied in connection with Buffalo proper and the smaller aggregations of population farther down the Niagara. Not only with regard to typhoid, but

the general mortality, do the downstream cities suffer, in spite of having, each, less than a twentieth of the population of Buffalo. On the whole, it appears that typhoid is becoming slightly less prevalent or less fatal, though there are many fluctuations, and the entire State has saved less than three lives in a thousand threatened from this cause since 1891.

Diphtheria, in spite of the antitoxin treatment, does not seem to be much less fatal than formerly. However, the fluctuations in this disease are unusually great, as compared with other standard causes of death. The deaths from this disease were unusually high in 1894, so that any argument from statistics is liable to many conflicting tendencies which the fairest treatment cannot nullify.

Consumption continues to be a favorite weapon of death, varying little from its average in any district and maintaining for six years a ratio of almost exactly 11 to 100. It is significant that the Adirondack district shows a marked increase in deaths from this cause since 1893, not, of course, because of any unfavorable tendency on the part of its normal inhabitants, but from the growing popularity of its climate. On the whole, about three deaths less per hundred occur in country than in city districts.

We have always held the opinion that consumption is responsible for far more than the 11 per cent. of deaths accredited to consumption. Thus, we note in these statistics, as in most other similar reports, a disproportionately large mortality from "diarrheal diseases," as compared with personal experience and that of other clinicians, and we have seen many cases of intestinal tuberculosis in children and in adults which have been diagnosed as diarrhea or enteritis, or called by some similar term

which does not represent the tubercular pathology.

Again, under the heads of acute respiratory diseases, accident and violence, old age and unclassified, we believe that some cases of tuberculosis are included. Certainly there are somewhere a considerable number of fatal cases of non-pulmonary tuberculosis.

The dangers of violent deaths in large cities seem to be popularly exaggerated. The maritime district has a percentage of between six and seven (the total local mortality being taken as 100 per cent.); the Lake Ontario and western district, a percentage of five; the southern tier counties, of more than six. Small-pox remains almost extinct, only three cases being reported for the whole

State, and those in the maritime district, where the most danger of infection from foreign parts exists.

In conclusion, we would emphasize the importance of careful study of reports similar to that of the New York State Board. Figures are often misrepresentative of facts. Actual conditions, rather than preconceived notions, must be adhered to. Local and epidemic fluctuations must be discounted, and, in certain diseases, a large allowance must be made for false diagnosis or deliberate falsification of returns. Studied with checks of this nature, statistics may be of the most encouraging character to the practical hygienist, and may furnish pointed arguments for the influence of a stubborn public.

ABSTRACTS.

THE CONFESSIONS OF A COCAINIST.*

A. H. SPRINGTHORPE, M.D., MELBOURNE.

It cannot be without medical interest to hear from the lips of a devotee, and that devotee a medical man of great mental endowments and uncommon training, some account of the manner in which he found himself affected by the continued abuse of one of the subtlest of seductive drugs, cocain, even though his record be not so detailed as that of De Quincey or so thrilling as that of Bayard Taylor.

My patient relates how he first came to take cocain. It was in the year of 1885, when serving in the German Army. "I took it inwardly," he said, "in one-grain doses, and remember very well the marvelous effect when after marching 'par force' thirty miles in ten hours, including one hour and a half rest, I found myself, on arriving at quarters, fresh, untired, not thirsty

nor hungry, but with bleeding feet." Going back to his medical studies, he had nothing more to do with the drug for some four years, though frequently brought face to face with morphinists or morphin-maniacs. In 1889, however, he was sent to relieve a country physician, whom he found lying in bed unconscious with a syringe sticking into his breast. Never in his life, he says, has he seen a more startling effect than that which then followed the injection of a twenty per cent. solution of cocain. "Nearly instantaneously he sat up in bed, with perfectly clear eyes, and received me, a total stranger, in the most cordial manner."

The occurrence haunted him day and night, but it was not until summoned to a late confinement some weeks later, when stiff and unable to move with lumbago, that he was weak enough to

**Australasian Medical Gazette.*

follow suit. "That night in the month of November, 1889, settled my future. Remembering well the effect of the cocaine, I took a syringeful (one-half centigram) combined with morphin, and two minutes afterwards one centigram. Five minutes later I was ready to start a couple of miles in a snowstorm." He repeated the performance before driving home again. This early repetition, taken in conjunction with the dosage, raises the suspicion as to whether, after all, he has told the truth about the date of his first injection.

However this may be, he took cocaine and morphin from that time forwards, increasing the dosage to six or eight grains daily of each drug, and soon (he says within a month) came to take not less than eighty to one hundred and twenty grains of cocaine daily. His highest single dose was twenty grains, the result being that he fell down suddenly, and remained in a cataleptic condition for some hours. His description of his symptoms follows. It is graphic, and, I think, in the main reliable :

"The first feeling a cocaineist has is an indescribable excitement to do something great, to leave a mark. But, alas, this disappears as rapidly as it came, and soon every part of the body seems to cry out for a new syringe. The second sensation—at first, at least, no hallucination—is that his hearing is enormously increased, so that he really (?) hears the flies walking over the paper. Very soon every sound begins to be a remark about himself, mostly of a nasty kind, and he begins to carry on a solitary life, his only companion his beloved syringe. Every passer-by seems to talk about him. Often and often have I stopped persons, or ordered the police to arrest them, thinking they were talking about me.

"After a relatively short time begins the 'hunting of the cocaine bug.' You imagine that in your skin worms or similar things are moving along. If you touch them with wool (especially absorbent wool) they run away and disappear, only to peep cautiously out of some corner to see if there is any danger. These worms are projected only on to the cocaineist's own person or clothing. He sees them on his washing,

in his skin, creeping along his penholder, but not on other people or things, and not on clothes brought clean from the laundry. How is this to be explained?"

In my opinion it is a question of disturbance in the frontal cortex, originating, perhaps, in skin dysesthesiae, and not a simple visual hallucination or retinal projection. Whatever its origin, it is characteristic of the cocaine habit, and readily distinguishable from the hallucination due to alcoholic excess. The sight presented by such a patient "hunting for the cocaine bug" is one which, once seen, can scarcely ever be forgotten. In a recent case—that of a wife of a medical man—the patient was about to consult a skin specialist for this psychical hallucination! He continues:

"About the same time appear many other hallucinations of the opticus, and, strange to say, self-suggested hallucinations also. Night turns to day. You sit up in your room syringing till the morning, and then fall asleep in a coma. In my case this occurred to such an extent that I had to engage a hospital warder, who came in the morning to revive me with about ten syringes of five-per-cent. solution, so that I was able to drive, not walk, fearing some one might garrote me.

"Other dreadful hallucinations I had in thousands, all of a persecuting character, and frightening the life out of me so long as the effects of the drug lasted. You see small animals running about your body, and feel their bites. Every object seems to become alive to stare at you from all corners—look revolvers, knives, etc., and threaten you. Yet, so soon as the effect of the injection is over, you laugh at it, and produce willingly, by a new injection, the same terrors. About that time I bought three St. Bernard dogs, thinking they would protect me; but one night I found out that they were talking about me—how they could get rid of me—so I stood up and shot one of them with a revolver, which I always used to carry. I think this was the most dreadful night of my life—I, standing on the table, with an Indian dagger and a syringe on the ground; one three-foot-high dog going to die, and two rather dangerous dogs roaring and groaning aloud, reproachfully looking at me, who always fancied

'Now comes the moment when they will tear you in pieces.' I stood the night on the table, till the arrival of my wardman, who hardly risked to enter the room.

"The strangest thing, however, in the cocain habit is that there seem to be two souls in the cocainist—one infested by the cocain, suffering and tortured by its effects; the other normal, laughing at his fears, and saying: 'What nonsense! It is only an hallucination produced by an injection.'

"Not frightened enough by these experiences, and escaping from the troubles produced by his conduct, on the cocainist goes, taking more and more; and then enters a new kind of illusion, which finishes him up for the mad-house. I mean the revolting, dirty, sensuous illusions. The remembrance of it is for me so awful that I only tell you that one day every person I saw, near or far, appeared to be naked and in the most lascivious positions, alone or with others. I remember on entering the surgical theater to have seen everybody—operator, assistant, students—naked. In terror, I took to flight, ran to a medical friend at a lunatic asylum, and was placed under restraint. Well, this ended (January, 1890) my pure cocain habit, which in a year's time eased my pockets of about \$8,000."

It was early in 1891 that I first met him in Melbourne. He was then a morphin-maniac, as well as cocainist. His appearance was characteristic. He was pallid and yellow, with hands trembling, cold and sweaty, eyes sunken and glistening, pupils dilated, breathing short and hurried—restless, irresolute and careless of his personal appearance. He appeared the embodiment of one who had just emerged from some terrifying experience. He soon became known to every chemist in the city, and from one and all bought syringes, cocain and morphin whenever money or credit permitted. Frequently, his needle would be fastened to his syringe by sealing wax, shellac, etc., and when he had no needle at all he would cut an opening with his knife, and insert the end of the syringe direct. Almost the whole of his body, except the face, was marked with needle scars. A common practice was to mix four grains of morphin with

two of cocain—"sixpenn'orth"—in a two-drachm bottle, and inject by syringeful until all was exhausted. The change from the shivering wretch before injection to the self-confident neurasthenic after injection struck all beholders. His experiences embraced the whole gamut of wretchedness and shame, and included both hospital and jail.

As regards abstinence, the subject agreed with Erlenmeyer, that the symptoms are neither manifold nor severe. He said:

"The tales about neuralgia, etc., are all lies, and, after two days' abstinence, the craving is relatively small—you feel, in fact, nothing, but the thousand possibilities of suggestion form the real danger. Then comes the maniac desire; it fascinates your whole body. Suddenly, your chest seems to be screwed together, you cannot breathe, your eyes protrude, and, if you have no cocain, you either commit suicide in some way without intending it, or murder one of your warders."

He summarizes the physiologic effects of the drug as follows:

"The cocainist early loses all appetite for solid food, but likes sweets, lollies and cakes. Diarrhea is soon produced, and immediate evacuation often follows big injections. Upon the muscular system the drug, as is generally recognized, acts as a most powerful stimulant for either single or continued effort. [Not only could he make long marches without becoming tired, but on one occasion, after injection, he says he lifted a cab with one hand on the axle.] It increases also the number of the respiratory and of the cardiac contractions (with vascular dilatation), as well as the quantity of urine (with large or repeated small doses, incontinence follows), and, enormously, the amount of sweat. Hence the great loss of weight. It stimulates also sexual appetite, though, later on, power is lost whilst desire remains. After each injection, the pupil dilates, but remains dilated only because injections are continued. [When taking very large doses, he remarked that his iris seemed to separate into broad radii, with free spaces between.]

"As regards the brain, mental processes seem quickened, but a kind of hypnosis intervenes, so that the brain

works without, and even against, the will. Immediately after the injection, the cocaineist becomes excited, and remains restless whilst under the influence. He likes manual work, however trifling, but has neither will nor ability for mental work, because he is bound to inject every five or ten minutes, or, in fact, because he never ceases to inject. The hallucinations and illusions already mentioned make their appearance early. One syringe self-injected is, in my opinion, absolutely sure to produce the fascinating desire for a second. The individual is almost certainly then a cocaineist, and will procure the drug for self-administration, even when apparently it is impossible to do so. All watching is useless. He has thousands of excuses to get a moment to himself, generally in the neighborhood of some chemist. Unscrupulous—even though still aware to some extent of his ties—he will get it, dishonestly if necessary; and, even when not craving for it at the moment, he will get it, because his only idea is to have it with him. The sense of right and wrong is not abolished, but he does not care much about trifles.

Thus he sinks lower and lower, disregards his personal appearance, and, because they will always show, or sham to show, a certain respect to his higher education, he seeks the association of lower people. He thus becomes a scoundrel or criminal, and does not mind to do so so long as he gets his cocaine. It is extremely seldom that he makes a trial to free himself of the habit, mainly because he does not see any reason to do so. Suicide he never contemplates so long as he can get his beloved drug."

Regarding diagnosis and prognosis, the same authority says:

"The cocaineist is distinguishable by his change of associations, his neglected appearance (of which he seems completely unaware), his dilated pupil, restlessness, hallucinations, illusions, and expression of anguish.

"The prognosis is exceedingly unfavorable. It depends in the first degree upon a perfect change of surroundings. The slightest article which could make a cocaineist remember some moment of his sufferings is also able to recall the fascination. Even if free for a whole

year, he cannot be trusted unless it be in new surroundings. And 'kind friends' are only too willing to remind him of things which he has done and of which he is now ashamed. So that, sooner or later, he will take it again for 'spite' or 'fascination,' or some other reason not to be explained by an uncocainized brain. For women the prognosis is—*pessima*."

With these words, he concludes his account, which, though perhaps inaccurate in certain minor details, seems to me of special value in that it proceeds from a skilled observer, who himself has been behind the scenes and watched the phantasmagoria from the subjective as well as the objective side. It throws also an interpreting light even on the classical descriptions of Erlenmeyer, a summary of which may be found in Hack Tuke's Dictionary of Psychological Medicine, 1892, vol. i, pages 236-237. Perhaps, also, the insight thus afforded into the inner workings of an illusionized brain may lead some who have hitherto acted as hard, and even pitiless, critics, to recognize something more than "the party's criminal will" in the resultant phenomena.

A Queer Little Hen.

There was once a little brown hen,
A dear little, queer little hen,
Her work was to lay
Just one egg every day.
And she did it, this good little hen.

She'd fly up in a tree, and right then,
Seated high on a branch, this queer little hen,
Her egg she would lay,
Her one egg every day,
This good little, queer little hen.

'Twas a strange thing to do, I must say,
Lay an egg from a tree every day.
And what good was the egg?
Just tell that, I beg—
That fell from the tree in that way?

But some people do things just as queer;
I know it; I've seen it, my dear.
They have a good thought,
But it just comes to naught;
From the wrong place they drop it, my dear.

There's a lesson for you and for me
From the hen that laid eggs in a tree.
If we do a right thing,
If a good thought we bring,
Let's not choose a wrong place, you and me.
G. S. SHARP, in the *Independent*, New York.

ETIOLOGY OF ECLAMPSIA.*

There is not at the present time a satisfactory hypothesis in regard to eclampsia before the profession. None in which pathology and etiology correspond to clinical facts. None able to withstand the test of chemical and microscopic research. While each of the many theories seem to explain some cases, there remains a large number of cases not satisfactorily explained by any theory heretofore before the profession.

A review of a recent literature shows a general tendency to ascribe to some form of blood poison the principal etiological factor. An objective sign of eclampsia not mentioned in the text books is a peculiar sweetish odor to the breath, due to acetone. Acetone is found in the blood of persons suffering from abnormal decomposition of carbohydrates, and indicates that it is the result of retrograde metamorphosis of organized bodies.

Certain facts of physiology and pathology of the liver and kidney must be kept in mind.

The kidney of pregnancy is large, pale, anemic; the renal epithelium shows fatty degeneration; the urine contains albumen at certain times of the day; hyaline and granular casts. There is no evidence of inflammation present, so that albumen and certain casts must be considered physiologic. The liver is enlarged from fatty degeneration of the cells, which begins around the intratubular veins.

In eclamptic patients very marked changes in the liver occur, consisting of dilatation of capillaries, followed by necrotic points, and, in fact, it is a part of the function of the liver to destroy or change poisonous substances and alkalis. The portal vein brings to the liver probably from the uterus septic and chemical substances. The pathologic changes described prevent the liver from performing its eliminating and purifying powers. The nitrogenous part of the proteids is eliminated as urea and allied bodies. The carbohydrate mostly ap-

pears in the form of biliary salts. The waste material from the fetus must also be eliminated by way of the mother—liver.

Clinical histories give us two large classes of cases.

1st. Those classed as uremic and accompanied by the usual symptoms of uremia.

2d. Those due to poison developed by retention of waste carbohydrate material from mother and fetus, and those products undergoing further decomposition and forming toxic products, convulsive poison and acetone.

Most physicians have the idea they have performed their whole duty when they have examined for albumin, casts, and solids. Against such an idea this article is a decided protest.

That eclampsia is primarily a kidney disease in all cases is not true, nor can it be prevented by attention to kidneys alone.

The poison originates partly or entirely in connection with the fetus. In no other way can we explain the cessation of convulsions after delivery, or death of fetus, even though retained in the uterus.

Cholagogue cathartics have a uniform good effect by relieving the portal circulation and the elimination of large quantities of poisonous malaria from the system.

Eclampsia, occurring during or shortly after labor, are due to the contractions of uterus, forcing the blood suddenly from uterine sinuses, which are loaded with tissue change in the fetus into the maternal circulation.

The nephritis, coincident with eclampsia, is mainly secondary analogous to the nephritis of scarlatina.

No examination of urine of pregnant women is complete without an examination for acetone, on account of its relation to carbohydrate tissue change.

There is only one factory in Japan where leather shoes are made, the natives, except those about the courts, wearing sandals of straw or wood.—*Exchange*.

*Abstract of a paper read at the recent meeting of the Second Pan American Medical Congress by Dr. J. A. Clark, Chicago, Ill., Professor Gynecology, Harvey Medical College.

THE DOCTOR'S MISTAKES.*

While it is unnecessary to deny that all human judgment is fallible, it is eminently judicious on the part of such as are called upon to venture opinions on probabilities to lessen as much as possible the chances of proving a rule. In the case of the doctor, the difficulty in fitting a prognosis to an ultimate fact is oftentimes insurmountable. The law of chances, with its multiplicity of controlling circumstances, is always against positive and unqualified assertions.

The patient himself, with his hereditary proclivities, his individual environment, and his inherent vital power, is always an uncertain factor in a calculation of results. Even taking all such conditions into account, the best of men err. No one can be so sure that he is right that he has never had reason to regret that he has been too direct and too positive in the expression of an opinion. Our patients are very charitable in condoning this fault, but always hold it against the man who commits it. The more he attempts to explain, the worse off he is. The results of an autopsy are past all arguments for reconciling prognostications with facts.

If the patient lives when otherwise he should die, he never loses his lucky privilege of talking back. His family and friends forget the joy of his recovery, often in spite of fate, in the satisfaction of getting even with the physician who gave up his patient so prematurely. The sympathies are always on the side of the man who wins, and, while no one regrets his reason for felicitation, the absence of one less witness against us might under other circumstances be borne by us with becoming resignation. The lesson is learned too late, that of saying and promising too much, and in thus doing more than our real duty to our patients.

When we cannot control the cause of disaster, it is worse than folly to predict results. If we mistake a seventy-year clock for a twenty-year one, the pendulum in the former generally swings on until it runs down in its own regular way. It is the vital pendulum, after all, that must be studied, and until it actually stops it is never safe to say

what is or what will be. In all our relations with our patients, it is the safer and better rule to be more than cautious in our temptations to think aloud in their presence. A discreet general guards his line of possible retreat with as much care as that of attack, concluding that while it is quite bad enough to be defeated, it is still worse to be hopelessly badgered by the enemy. The older practitioner need not be told that the practice of his art is constantly beset by startling surprises. Patients not only get well who should die, but many die without ostensible scientific reasons.

To reconcile these constantly recurring experiences makes him an ever-ready trimmer to circumstances and an adept diplomatist with shifting fortune. While apparently knowing everything, he finds it eminently fitting his actual position to know little and say less. The loophole of expediency is as essential to him as are his advice and prescription to his patient. He learns to be astonished at nothing and always on the lookout for the unexpected. A sudden death is always explained with greater plausibility by the man who never declares his positive prognosis than by the one who has previously committed himself to its impossibility. So also with a doubtful diagnosis. It is always wiser to wait and see the eruption than on general reasoning to promise its appearance, and to be sure that pus is present before risking a dry tap.

The qualifying "if" comes in everywhere and every time. If the patient does not die, he may live; if pus is not present, the signs are simply misleading; if the case is not one of measles, the clinical history is wrong and the patient has not been exposed; if it is not diphtheria, the bacteriologic examination is at fault; if the wound does not heal, the sutures were not thoroughly aseptic. When nothing is promised, nothing is expected. We must balance one condition by the other, and the more evenly we do this the less often will the physician be charged with what he cannot reasonably help. A guarded mouth never needs to explain why the foot dropped in.

*Editorial in the *Medical Record*.

SOCIETY REPORTS.

DELAWARE COUNTY MEDICAL SOCIETY.

Regular meeting, January 15, 1897.

DR. MAISON reported for the committee on registration of nurses that a register had been prepared to be kept in a convenient location, and that certificates of registration were ready, to be filled out upon application to the proper committee appointed by the Society. The annual fee had been fixed at \$1.00, which, for the present, would be sufficient to meet the expenses incurred by the bureau. Applicants for registration would be allowed to specify the nature of cases they desired to take, and would be desired to report so soon as they were through with a case, and when employed also to state the probable duration of their service.

It was moved that Dr. Maison's report be accepted, with the understanding that he return the same in writing before adjournment.

The following were elected officers for the ensuing year: President, Dr. D. M. McMasters; vice-president, Dr. R. S. Maison; secretary, Dr. Linnaeus Fussell; treasurer, Dr. D. W. Jefferis; reporter, Dr. W. Knowles Evans; censors, Drs. S. P. Bartleson, William B. Ulrich, J. H. Fronfield; librarian, Dr. Frank E. White, Elwyn, Pa.

DR. LONG reported

A Case of Sleep Walking.

On the night of January — I was awakened at half-past eleven by a ring at my door-bell, and found waiting at the door a patient—a lady of refinement and extreme sensitiveness. "Why, Mrs. —," I said, "what are you doing here?"

Startled, she fell to the floor. I assisted her into the house, and upon questioning her, when she recovered sufficiently, elicited the following: During the afternoon she was not feeling well, and had expressed an intention to come to my office to consult me; but a friend happening in, interfered with the carrying out of the plan. She had retired to bed with her husband at half-past nine, and remembered nothing more until I spoke to her at my door. She was attired only in a light, loose dressing-gown over her night-dress and a thin pair of slippers, and thus she had walked on a cold, frosty night a distance of three miles to my office. I promptly ordered my carriage and had her sent to her home, where she had some difficulty of gaining ingress, as her husband was still sleeping soundly, not having been awakened by her movements.

A number of other cases were adduced, showing that the case reported by Dr. Long was not exceptional, one member reporting a

case in which a man had harnessed a double team and driven several miles before being awakened.

DR. BARTLESON reported a case in which he had been consulted to break up the habit of somnambulism in a young girl. He gave her ten grains of quinine and recommended that treatment for similar cases.

DR. CROTHERS exhibited a specimen of triplex kidneys removed from a patient who had died of typhoid fever after two weeks' illness. The kidneys were joined together, the third portion crossing the vertebral column and joining with the right and left kidney, thus making a mass shaped like a horse-shoe. There were two distinct ureters passing from the right portion of the mass, and from the left side one ureter, dividing into two a short distance before joining that side. A few days before death the patient passed a pint of blood *per urethram*. Upon careful examination of the specimen, a ruptured blood-vessel was found at the hilum of the left kidney near the junction of the left ureter.

DR. ULRICH gave a short address upon

The Use and Abuse of the Forceps.

I think there is a great field for reform in the use of the forceps. I look upon them as an instrument of great benefit to humanity when properly used. I look back upon my own professional life with regret when I consider that, on account of the lack of the experience and judgment which comes with years, I may not in every case have used them wisely. I am of the opinion that the indiscriminate use of the forceps has become more or less of a fad with some of the younger men, and fear that this is largely caused by the carelessness in the present teaching, which does not impress upon them the necessity of a careful and comprehensive study of the indications for their use. Probably no more serious problem ever confronts the conscientious practitioner of medicine than that of *how or when* to use the forceps.

Volumes have been written touching this subject, and discussion endless has been made, yet many of us are still reckless in their use, unheeding the experience of the past, and unmindful of the lives made miserable and the suffering caused by criminal errors in judgment. It is not possible that complicated cases of labor are becoming so much more numerous, as the increased number in which surgical interference is advocated would lead one to suppose. I know that many physicians rarely attend a case of labor without using the

forceps. What is the result? It is that we make business for the gynecologists.

I do not think that we should be in too much of a hurry during the second stage, though there are many who say that no woman ought to be allowed to suffer a great length of time after the labor has become well advanced in the second stage. I do not think forceps are ever applied without some danger to the integrity of the maternal tissues, which more often suffer injury than does the child, and I must enter my decided protest against the use of excessive force in traction. Nature is greater than the physician. Time is necessary for the proper moulding of the child's head, as well as for the gradual and safe relaxation of the maternal tissues. The forceps may be applied, if skill be used, without great inconvenience or pain to the mother. I never use an anesthetic before applying them, and I thus know whether I am doing any injury, since the patient can tell me if I hurt her.

The forceps should never be applied until the head is well down and the os well dilated; never put on when the os is merely stretched over the head. The appeals of friends, and even the patient herself, may oftentimes lead a physician to be meddlesomely officious, even against his better judgment. Traction should be made while the pain lasts, and the head gradually brought down upon the perineum with each succeeding pain, the forceps simply assisting nature, not taking her place. When the head reaches the perineum it is my practice to take off the instrument. Frequent lacerations of the perineum are caused by the passage of the head while locked within the instrument. It is pernicious practice to sit with the hand pressing upon the perineum in the mistaken effort to accomplish that which was formerly called "supporting the perineum." The late William Goodell denounced the so-called support of the perineum. I had some correspondence with him upon the subject and afterwards met him and discussed it. The only object that can be gained by this procedure, although this is an important one, is the regulation of too violent pains or too sudden termination of the labor. In this way we can do much to protect the perineum. If too much manipulation is used the circulation is interfered with and the results may be disastrous. It is criminal to leave rupture of the perineum, anything beyond a simple rupture of the fourchette, without immediate surgical repair.

DISCUSSION.

DR. W. KNOWLES EVANS.—What position does Dr. Ulrich ordinarily recommend for the patient during labor?

DR. ULRICH.—I prefer the back, but it depends upon the labor. If uncomplicated it doesn't make much difference.

DR. BARTLESON.—I wish to second Dr. Ulrich's advice not to hurry the second stage of labor. Do not be in a hurry to deliver with forceps. Many times you will save the mother

and child by making haste slowly. Never be in a hurry when the head is on the perineum. It is frequently my practice at that stage to enjoin the mother not to bear down but ease up her expulsive pain by an effort of will. In primiparae, when I have brought the head down on the perineum, I remove the forceps; but leave them on in multiparae. My record of obstetric cases numbers now 3,448. In my earlier experience I have seen a good many perineums ruptured that might possibly have been thus avoided.

DR. LONG.—To what extent is a surgeon warranted in using traction before resorting to some other expedient? I call to mind a case of my own, seen in consultation with another physician, in which we were compelled to use excessive force of traction for delivery, but the sequelae were unfavorable for the patient. She had child-bed fever and milk leg, and though both mother and child are living to-day, the woman is in a very bad general condition. I don't doubt but that the injury produced at time of delivery was the active cause of this state by opening avenues for septic absorption. That the head was unusually large and the pelvis small was the apparent cause of the difficulty. Did we do right, or should we have resorted to some other procedure?

DR. ULRICH.—How long did you wait?

DR. LONG.—The woman had been in labor three days.

DR. W. KNOWLES EVANS.—I think authorities are agreed that the employment of any force beyond that which can be applied through the hands and arms is bad practice. This business of bracing one's self against the foot-board, with a brother practitioner at the other end to prevent the woman from slipping, seems to me unwarranted.

DR. M. P. DICKESON.—No absolute rule, or even governing rule, can be relied upon to assist a man in such cases. Books are unreliable and the judgment of the individual is the court of last resort. I was called in consultation to see a case some weeks since. The attendant had applied the forceps three times without success. The instrument either slipped off, or when strong traction was made there was no appreciable advance of the head. The woman was in a fair condition, and as there seemed no indication for haste in the matter, I requested the attendant to wait two hours. Upon my return to the house in two hours we chloroformed the patient, and while we were preparing to apply the forceps the head came down and the woman was delivered normally. I take issue with Dr. Ulrich in regard to the supporting of the perineum, and would not conduct a case without attempting such support.

DR. BURR.—There can be no question in my mind but that in the majority of cases a natural termination of labor is better both for the mother and child. Labor is a natural process, though it may be somewhat modified

by unnatural and artificial methods of living, intermarriage of different races, etc. I am inclined to think that the increased desire for ease and pleasure in these days has much to do with the indiscriminate and unwarranted use of the forceps. The desire to relieve pain and render all surgical procedures as comfortable as possible has much to do with the same result. I do not believe that the modern surgeon is as heartless as he is sometimes pictured, though I have known some cases in which the use of instruments in labor has been simply in order to save time to the surgeon that he might thereby have opportunity to attend an urgent call of duty or devote time to pleasure. I think, with our nineteenth century progress in surgery, we are apt to forget the Biblical analysis as to the nature of labor. This is the earliest description of a natural surgical process that we have, and is as true to-day as it was 6,000 years ago, "In sorrow shalt thou bring forth children," etc. No matter how much we should desire to render the procedure painless, we are not yet divinities, and live under present conditions whether we desire to do so or not. I think Dr. Ulrich hits the nail squarely on the head when he affirms that the pains and travail of a woman are absolutely necessary to bring about that

preparation of the soft parts for the safe passage of the child. I have sat by the bedside of many a woman in travail, and have echoed her groans in my own heart until I thought that another fifteen minutes would completely unnerve me and render me helpless for any emergency or sudden necessity for the nicest skill in instrumental interference. It is in my opinion one of the severest tests that a strong man has to contend with, to see a woman suffer, to hear her repeat again and again, "Doctor, can't you relieve me?" and to be compelled to stand by inactive and incapable of doing more than assuage her anxiety by mental and moral support. I think the kernel of the whole matter is in this: That uncomplicated labor is a physiologic surgical process, differing from other surgical procedures in the fact that the pains and sufferings incidental thereto are absolutely necessary to the successful and safe termination of the process; and that actual instrumental interference is or should be only incidental to the process. The question of the use of the latter necessitates the finest judgment that we are called upon to exercise. I am sure that I have seen many cases, in the practice of myself and others, where serious injury has been produced by the injudicious use of instruments,

PERISCOPE.

NEWS AND MISCELLANY.

The Obstetrical and Gynecological section of the Buffalo Academy of Medicine held its regular meeting February 23d. Program: Drainage Following Abdominal Operations, Dr. Chauncey Smith; Treatment of Shock and Collapse Following Operations, Dr. John Parmenter.

The normal menstrual flow depends upon the condition of the ovaries, uterus, and tubes, and any disorder, either functional or organic, of these organs, results in amenorrhea, says Dr. Leon Garner. One of the most common causes of this disorder is the non-ripening of the ovules. Again, the menstrual flow may cease in consequence of chronic perioöphoritis, the ovaries being enclosed in a firm, exudate mass. The increased sexuality developed by constant association of young girls with men is largely accountable for amenorrhea and dysmenorrhea, but in most cases the causes may be traced to convalescence from typhoid fever, pneumonia, one of the acute exanthemata, tuberculosis, or generally defective hematosis. Gastric catarrh, fright, great anxiety, especially when of long duration, predisposes to amenorrhea.

The various disorders which accompany menstruation often disappear with the cessa-

tion of the flow, and the patient suffering from amenorrhea feels better than she previously did. We often see pale, ill-nourished girls coming for treatment when there is nothing functionally wrong, save the hot-house life they constantly live in. I do not intend to speak of the organic lesions that may produce amenorrhea, as they usually require operative measures, and it is not my object to go into the field of gynecologic surgery, but to show that in this class of cases there is a therapeutic agent that can be relied on in their treatment. The emmenagogue properties of parsley have been long known, but its preparations could not be relied on until the chemical investigations of Chapoteaut showed a means of preparing its active principle, apiolin.

This drug is of a reddish color; has a decided odor of parsley, a density of 1.115, and a boiling point of 275° C. Laborde's physiologic tests on animals shows that apiolin increases vascularity and contraction of the smooth muscular fibres of the uterus, and that it acts directly in the genito-spinal center of the medulla, thus giving a clear indication of its use. The drug has been carefully studied in Paris, and the following cases are typical of several in which I have used it:

CASE 1.—Miss L., aged nineteen, came with a history of irregular menstruation. For the past three years it had occurred at periods of

from three to six weeks. The flow is scanty and is accompanied by intense abdominal pain in the region of the ovaries and tubes, the pain being so severe as to cause attacks of syncope, followed by headache. The case appeared to be one of acute amenorrhea, and apiolin was exhibited in doses of one capsule morning and evening for two weeks, when menstruation occurred. To her surprise and gratification, the discharge was profuse, accompanied with but slight pain. No syncope or subsequent headache. The last two periods have been normal.

CASE 2.—Mrs. J. F. B., aged thirty-eight; menstruation regular every twenty-nine days, accompanied with such severe pain that she had to remain in bed for two or three days each time. Apiolin was administered in one capsule after each meal. At the first period the pain was less severe; in bed only one day. At second and subsequent periods, menstruation was almost painless.

A pregnancy of extraordinary length is reported by Ross in the *Australian Medical Gazette*. September 30, 1895, the patient, a multipara, thought she detected fetal movements. One week later, October 6, she called upon Ross to have her suspicion of pregnancy confirmed. He felt the movements distinctly at that time, and every week thereafter until the day of delivery, May 20, 1896, *i. e.*, 227 days after he first felt fetal movements. Presuming that they can be felt so early as the end of the third month, it would be necessary to add eighty-four days, making 311 days for the duration of the pregnancy. The condition of the child at delivery coincided with these figures. After a long labor, the os was dilated, the very thick membranes were ruptured, and a female child weighing about nine or ten pounds was delivered with high forceps. Liquor amnii was scanty, and the placenta adherent. The posterior fontanel was completely closed, and the anterior one small and firm, and non-pulsating. The appearance of the child indicated a greater age than 311 days, which is the very shortest conceivable duration of this pregnancy.

An anatomical anomaly not noticed in the late volume issued by George M. Gould. At a recent meeting of the Chicago Gynecological Society, the paper of the evening was upon the "Treatment of Hemorrhoids." In the course of the discussion, an eminent member of the society prefaced his remarks with these words: "Gentlemen, the rectum is coming to the front."—*Medical Standard*.

We should drink from one-third to two-fifths as many ounces as we weigh in pounds, says Prof. Allen in the *Journal of Hygiene*. Therefore, for a man weighing 168 pounds would be required from fifty-six to sixty-four ounces daily, or from one and one-half to four pints. This we regard as a very

indefinite answer. The amount of water required depends on the season of the year, the amount of work done, and the kind of food eaten. In hot weather we require more than in cold because of the greater loss through the skin, though this is in part made up by the lesser amount passed away through the kidneys. If a man labors very hard he requires more than if his labor is light, a man working in a foundry where the temperature is high and the perspiration profuse not infrequently drinks three or four gallons daily.

If the food is stimulating and salty more water is required than if it is bland. Vegetarians and those who use much fruit require less water than those who eat salted fish and pork, and often get along with none except what is in their food.

In most cases our instincts tell us how much water to drink far better than any hard or fixed rule. For ages they have been acquiring a knowledge of how much to drink and transmitting that knowledge to descendants, and if we follow them we shall not go far out of the way. It is of more use to us to know that pure water is essential and that *impure water is one of the most dangerous of drinks*, than to know how much of it is required daily.

If one lives in a region where the water is bad, it should be boiled and put away in bottles well corked in an ice chest, and, in addition, one should eat all the fruit he can, if fruit agrees. Fruits contain not only pure water, but salts which are needed to carrying on healthfully the functions of life.

Dark Ways and Vain Tricks.—We examined recently a sample of so-called cardamon specimens obtained from an East Indian correspondent. These are not cardamon seed, but a very curious and accurate imitation of the pods. It was suggested that the specimens were made of clay, carefully moulded into the shells of the cardamon seeds, thus making an almost perfect imitation, but this can hardly be true, since the inner part of the cardamon shells is perfectly smooth. More probably a plaster cast is obtained of the outer surface of the cardamon shells, and moulds obtained from these plaster casts.—*Bulletin of Pharmacy*.

Treatment of suppurative bubo of the groin.—Gaither (*Johns Hopkins Hosp. Bull.*, July, 1896), referring to the general opinion of the uselessness of the so-called abortive treatment of suppurative bubo, states that recent and extended experience has led him to advocate the application of a pressure bandage, without any regard to the age of the bubo, if suppuration has not advanced to such a degree as to bring the case practically to the operative stage. The bandage is applied as follows: a piece of cotton as large as the fist is folded on itself again and again until it has the shape of the bubo, and when placed on it does not completely cover it. This is carefully adjusted, and a wad of tightly compressed cotton as

large as a cocoanut placed over it. Small pieces of cotton are also used on the inner and outer surfaces of the thigh to prevent chafing. A very tight spica bandage is then put on. Of twelve cases in which a fair trial was made of this plan of treatment, the bubo was aborted in nine, including two which seemed to be too far advanced to leave any chance of success. The bandages were renewed in from four to eight days, and the patients were able to continue work without inconvenience. In favor of this plan of treating acute suppurative adenitis of the groin, the author asserts that it is safe, that pain, as a rule, is diminished after an interval of twenty-four hours, that it does not prevent the patient from pursuing his usual occupation, and that it gives a high percentage of successful cases.

The abdominal exploration versus the vaginal method is discussed in the New York Polyclinic by Dr. Henry E. Coe, who says: So far as my own experience goes, I would elect the abdominal method of exploration in the following conditions: 1. In the case of neoplasms or obscure enlargements which are situated in the abdominal cavity, or have risen above the pelvic brim, especially if they are more or less adherent. 2. In ascites of doubtful origin, more particularly when tuberculous or malignant disease is suspected. 3. In cases of disease of the adnexa in which the latter are situated near or above the pelvic brim, as established by bimanual palpation. 4. In cases in which the history and symptoms point to general intestinal adhesions, and, above all, when appendical complications are suspected. 5. In ectopic gestation before rupture, when the sac is high up, at the side or in front of the uterus, instead of in Douglas's pouch. 6. In case of intractable pelvic and abdominal pain of obscure origin, including the so-called neuroses.

In a paper on the Traumatic Neuroses and their medico-legal relations (*Medical Record*) Dr. A. L. Hall reaches these conclusions:

1. The surgeon should be an equal authority with the neurologist in determining the sequences of trauma upon the nervous system.

2. Neurasthenia is the usual form under which traumatic neurosis expresses itself, and its symptoms are indistinguishable from neurasthenia arising from other than traumatic influences.

3. The actual condition of the patient previous to the accident must be known in order to reach a correct estimate of the damage from injury sustained by the nervous system.

4. The type of symptoms manifested by the neurosis, whether neurasthenical or hysterical, is oftentimes a question of vital importance in the adjudication of a claim for damages.

5. Traumatic neurosis occurs oftenest at the centres of population, but it is by no means a rare affection in the country districts.

6. It is probable that traumatic neurosis is dependent upon some definite—yet unknown change in the arrangement and structure of

the cellular elements of the nervous system, which gives rise to stable rather than unstable symptoms.

7. A stable, well-organized symptom complex indicates damage to the nervous structures; while instability of symptoms and want of orderly arrangement denote trivial injury,—and, if long continued, simulation is rendered probable.

8. The so-called "objective symptoms" depend upon the psychological rather than the physical state of the subject, and are unreliable guides to diagnosis.

9. A correct diagnosis is best obtained from a reliable account of the accident, the history of the previous state of the patient, the presence of surgical trouble, and the existence of a stable, well-defined, organized symptom complex.

10. The term "traumatic neurosis" is an expression for an indefinite condition, and a simplification of the subject is desirable from a clinical stand-point.

Kleptomania, as a symptom of mental disorder, has long been recognized by alienists. Marc, who reported many cases half a century ago, recognized that people, in circumstances which should have placed them beyond temptation, stole from shops articles to them almost valueless, whose number and uselessness indicated mental disorder in the thief. According to many alienists, kleptomania is always a manifestation of degeneracy, an episodic symptom-complex. There are kleptomaniacs of this type who steal purely for the sake of stealing. At the same time, as Lacassagne points out, in the vast majority of kleptomaniacs, kleptomania is a morbid manifestation of certain neuroses and psychoses rather than a psychosis by itself. In many cases of so-called kleptomania, stealing is a manifestation of viciousness or feeble morality. Kleptomaniacs steal, but not all thieves are kleptomaniacs.—*Journal A. M. A.*

The alarming frequency of tuberculosis of bone is discussed by Dr. George Halley in *Langsdale's Lancet*. He states:

1. That tuberculosis of the bone is frequently found where there is no antecedent history.

2. That its invasion is, in most cases, insidious and without pronounced manifestations.

3. That slight injuries are more likely to be followed by tubercular osteo-myelitis than severe injuries.

4. That the success in treating tuberculous infections of the bones depends largely on the earliness of its recognition.

5. That where secondary infection, by pus germs, has occurred, injection, or disinfection, rarely succeeds in effecting a cure.

6. Where secondary infection, by pus germs, has taken place, a very extensive resection is usually necessary, and, when this cannot be done, an amputation is good practice in most cases.